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STIC Database Tracking Number: 194532

TO: Ralph J Gitomer
Location: rem/3d65/3c18
Art Unit: 1655
Tuesday, July 11, 2006
Case Serial Number: 10/053482

From: Saloni Sharma
Location: Biotech-Chem Library
REM-1A64
Phone: (571)272-8601

saloni.sharma@uspto.gov

Search Notes

Examiner Gitomer,

See attached results.

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SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: R GITOMER Examiner #: 69630 Date: 7/2/06
Art Unit: 1655 Phone Number 30 Serial Number: 10/053,482
Mail Box and Bldg/Room Location: 3C18/3D65 Results Format Preferred (circle): PAPER DISK E-MAIL
If more than one search is submitted, please prioritize searches in order of need. ME

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Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

_____

Earliest Priority Filing Date: 11/2001

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

PLEASE SEARCH COMPOUND (XVIII) ON TOP PAGE 21, THEN CONTACT ME TO DISCUSS CLAIMS.

Thanks
RG
20916
9

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STAFF USE ONLY	Type of Search		Vendors and cost where applicable	
Searcher: Sabrina Thurm	NA Sequence (#)		STN	✓
Searcher Phone #:	AA Sequence (#)		Dialog	
Searcher Location:	Structure (#)		Questel/Orbit	
Date Searcher Picked Up: 7/5/06	Bibliographic		Dr.Link	
Date Completed: 7/11/06	Litigation		Lexis/Nexis	
Searcher Prep & Review Time: 60 min	Fulltext		Sequence Systems	
Clerical Prep Time:	Patent Family		WWW/Internet	
Online Time: 40 min	Other		Other (specify)	

PTO-1590 (8-01)

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> d his nofile

     (FILE 'HOME' ENTERED AT 16:07:22 ON 11 JUL 2006)

     FILE 'CAPLUS' ENTERED AT 16:07:32 ON 11 JUL 2006
               E US2001-053482/APPS

     FILE 'REGISTRY' ENTERED AT 16:07:57 ON 11 JUL 2006

     FILE 'STNGUIDE' ENTERED AT 16:08:00 ON 11 JUL 2006

     FILE 'REGISTRY' ENTERED AT 16:12:24 ON 11 JUL 2006
L1                STRUCTURE UPLOADED
L2              2 SEA SSS SAM L1
                  D SCAN
L3             46 SEA SSS FUL L1
                  D SCAN

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L4             24 SEA ABB=ON  PLU=ON  L3

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     FILE 'STNGUIDE' ENTERED AT 16:14:34 ON 11 JUL 2006

     FILE 'REGISTRY' ENTERED AT 16:15:50 ON 11 JUL 2006
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L7              0 SEA SSS SAM L5

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     FILE 'STNGUIDE' ENTERED AT 16:19:26 ON 11 JUL 2006

     FILE 'CAPLUS' ENTERED AT 16:20:39 ON 11 JUL 2006
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                  E WO2002-US34972/APPS
L9             24 SEA ABB=ON  PLU=ON  (L4 OR L8)
                  SEL RN L8

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L10            11 SEA ABB=ON  PLU=ON  (50909-86-9/BI OR 524066-91-9/BI OR
                  524066-92-0/BI OR 524066-93-1/BI OR 524066-94-2/BI OR 524066-95
                  -3/BI OR 524066-96-4/BI OR 55779-48-1/BI OR 61869-41-8/BI OR
                  65417-16-5/BI OR 70217-82-2/BI)
L11             7 SEA ABB=ON  PLU=ON  L10 AND L3
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L13             1 SEA ABB=ON  PLU=ON  L12

     FILE 'BEILSTEIN' ENTERED AT 16:23:44 ON 11 JUL 2006
L14             0 SEA SSS FUL L5

     FILE 'MARPAT' ENTERED AT 16:23:59 ON 11 JUL 2006
L15             0 SEA SSS SAM L5
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L16             0 SEA SSS FUL L5
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L17            15 SEA ABB=ON  PLU=ON  L9 NOT (PY>2001 OR AY>2001 OR PRY>2001)

     FILE 'STNGUIDE' ENTERED AT 16:25:24 ON 11 JUL 2006

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L18           919 SEA ABB=ON  PLU=ON  WOOD K?/AU
                  E HAWKINS E/AU
L19           264 SEA ABB=ON  PLU=ON  HAWKINS E?/AU
                  E SCURRIA M/AU
L20             6 SEA ABB=ON  PLU=ON  ("SCURRIA M A"/AU OR "SCURRIA MICHAEL"/AU
                  OR "SCURRIA MICHAEL A"/AU OR "SCURRIA MIKE"/AU)
                  E KLAUBERT D/AU
L21            72 SEA ABB=ON  PLU=ON  ("KLAUBERT D"/AU OR "KLAUBERT D H"/AU OR
                  "KLAUBERT D K"/AU OR "KLAUBERT DIETER"/AU OR "KLAUBERT DIETER
                  H"/AU OR "KLAUBERT DIETER HEINZ"/AU)
L22            12 SEA ABB=ON  PLU=ON  (L18 AND (L19 OR L20 OR L21)) OR (L19 AND
                  (L20 OR L21)) OR (L20 AND L21)
L23             4 SEA ABB=ON  PLU=ON  L11
L24            24 SEA ABB=ON  PLU=ON  (L23 OR L9)
                  D BIB L13

=> file caplus
FILE 'CAPLUS' ENTERED AT 16:30:18 ON 11 JUL 2006
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FILE LAST UPDATED: 10 Jul 2006  (20060710/ED)

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'OBI' IS DEFAULT SEARCH FIELD FOR 'CAPLUS' FILE

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L19           264 SEA FILE=CAPLUS ABB=ON  PLU=ON  HAWKINS E?/AU
L20             6 SEA FILE=CAPLUS ABB=ON  PLU=ON  ("SCURRIA M A"/AU OR "SCURRIA
                  MICHAEL"/AU OR "SCURRIA MICHAEL A"/AU OR "SCURRIA MIKE"/AU)
L21            72 SEA FILE=CAPLUS ABB=ON  PLU=ON  ("KLAUBERT D"/AU OR "KLAUBERT
                  D H"/AU OR "KLAUBERT D K"/AU OR "KLAUBERT DIETER"/AU OR
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"KLAUBERT DIETER H"/AU OR "KLAUBERT DIETER HEINZ"/AU)
L22 12 SEA FILE=CAPLUS ABB=ON PLU=ON (L18 AND (L19 OR L20 OR L21)) OR (L19 AND (L20 OR L21)) OR (L20 AND L21)

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L22 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2006:137803 CAPLUS
DOCUMENT NUMBER: 144:384691
TITLE: New Bioluminogenic Substrates for Monoamine Oxidase Assays
AUTHOR(S): Zhou, Wenhui; Valley, Michael P.; Shultz, John; Hawkins, Erika M.; Bernad, Laurent; Good, Troy; Good, Dave; Riss, Terry L.; Klaubert, Dieter H.; Wood, Keith V.
CORPORATE SOURCE: Promega Biosciences Inc., San Luis Obispo, CA, 93401, USA
SOURCE: Journal of the American Chemical Society (2006), 128(10), 3122-3123
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Novel bioluminogenic substrates were designed for probing monoamine oxidase (MAO) activity based on a simple and effective β-elimination strategy. By modifying the amino group and the central core of luciferin derivs., we have developed a series of substrates useful for assays of MAO A or B, or both. One of these substrates, exhibiting low Km values and high signal-to-background ratios with both isoenzymes, was shown to accurately measure the Ki values of known MAO inhibitors. This substrate is a key component in the development of a highly sensitive homogeneous MAO assay for high-throughput screening (HTS) of compds. in drug discovery and for monitoring MAO activity in complex biol. systems. This design strategy should be applicable to fluorogenic MAO substrates and could broaden the structural requirements of substrates for other enzyme assays.
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:1292638 CAPLUS
DOCUMENT NUMBER: 144:33522
TITLE: Substrate-binding, catalytically inactive hydrolases as carriers for the immobilization of fusion proteins
INVENTOR(S): Darzins, Aldis; Encell, Lance; Johnson, Tonny; Klaubert, Dieter; Los, Georgyi V.; Mcdougall, Mark; Wood, Keith V.; Wood, Monika G.; Zimprich, Chad
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 121 pp., Cont.-in-part of U.S. Ser. No. 768,976.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE

US 2005272114	A1	20051208	US 2004-6031		20041206
US 2004214258	A1	20041028	US 2004-768976		20040130
US 2006024808	A1	20060202	US 2005-194110		20050729
PRIORITY APPLN. INFO.:			US 2003-444094P	P	20030131
			US 2003-474659P	P	20030530
			US 2004-768976	A2	20040130
			US 2004-592499P	P	20040730

OTHER SOURCE(S): MARPAT 144:33522

AB Hydrolase variants that retain substrate binding, and capable of forming a covalent bond with a substrate, but lacking the catalytic activity to release the hydrolysis products are described for use in the immobilization of proteins onto surfaces carrying a substrate for the hydrolase are described. The binding of the hydrolase to substrate is more stable than that of the wild type enzyme. The catalytically inactive variant has at least two amino acid substitutions. Substrates for hydrolases comprising one or more functional groups are also provided, as well as methods of using the mutant hydrolase and the substrates of the invention. Also provided is a fusion protein capable of forming a stable bond with a substrate and cells which express the fusion protein. Development of a catalytically inactive variant of the haloalkane dehalogenase of Rhodococcus rhodochrous is demonstrated. Use of fusion products with fluorescent proteins and enzymes in imaging in vivo are demonstrated.

L22 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:	2005:291435 CAPLUS
DOCUMENT NUMBER:	143:341532
TITLE:	Homogeneous, bioluminescent protease assays: Caspase-3 as a model
AUTHOR(S):	O'Brien, Martha A.; Daily, William J.; Hesselberth, P. Eric; Moravec, Richard A.; Scurria, Michael A. ; Klaubert, Dieter H.; Bulleit, Robert F.; Wood, Keith V.
CORPORATE SOURCE:	Promega Corporation, Madison, WI, USA
SOURCE:	Journal of Biomolecular Screening (2005), 10(2), 137-148 CODEN: JBISF3; ISSN: 1087-0571
PUBLISHER:	Sage Publications
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB Using caspase-3 as a model, the authors have developed a strategy for highly sensitive, homogeneous protease assays suitable for high-throughput, automated applications. The assay uses peptide-conjugated aminoluciferin as the protease substrate and a firefly luciferase that has been molecularly evolved for increased stability. By combining the proluminescent caspase-3 substrate, Z-DEVD-aminoluciferin, with a stabilized luciferase in a homogeneous format, the authors developed an assay that is significantly faster and more sensitive than fluorescent caspase-3 assays. The assay has a single-step format, in which protease cleavage of the substrate and luciferase oxidation of the aminoluciferin occurs simultaneously. Because these processes are coupled, they rapidly achieve steady state to maintain stable luminescence for several hours. Maximum sensitivity is attained when this steady state occurs; consequently, this coupled-enzyme system results in a very rapid assay. The homogeneous format inherently removes trace contamination by free aminoluciferin, resulting in extremely low background and yielding exceptionally high signal-to-noise ratios and excellent Z' factors. Another advantage of a luminescent format is that it avoids problems of cell autofluorescence or fluorescence interference that can be associated

with synthetic chemical and natural product libraries. This bioluminescent, homogeneous format should be widely applicable to other protease assays.
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:150211 CAPLUS
TITLE: Analytical biotechnology
AUTHOR(S): Wood, Keith V.; Klaubert, Dieter H.
CORPORATE SOURCE: Promega Corporation, Madison, WI, 53711, USA
SOURCE: Current Opinion in Biotechnology (2005), 16(1), 1-2
CODEN: CUOBE3; ISSN: 0958-1669
PUBLISHER: Elsevier Ltd.
DOCUMENT TYPE: Journal; Editorial
LANGUAGE: English
AB Unavailable

L22 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:698252 CAPLUS
DOCUMENT NUMBER: 141:187324
TITLE: Methods and kits for dual enzymatic assays whereby light is quenched from luminescent reactions
INVENTOR(S): Hawkins, Erika; Butler, Braeden; Wood, Keith V.
PATENT ASSIGNEE(S): Promega Corporation, USA
SOURCE: PCT Int. Appl., 77 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004072299	A1	20040826	WO 2004-US4075	20040212
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004210982	A1	20040826	AU 2004-210982	20040212
CA 2515217	AA	20040826	CA 2004-2515217	20040212
US 2004224377	A1	20041111	US 2004-777461	20040212
EP 1592805	A1	20051109	EP 2004-710594	20040212
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				

PRIORITY APPLN. INFO.: US 2003-447065P P 20030212
WO 2004-US4075 W 20040212

AB The present invention relates to single and dual reporter luminescence assays utilizing reagents to quench an optical, e.g., an enzyme-mediated luminescence, reaction. In one embodiment of the invention, a reagent is added to an assay which selectively quenches a first enzyme-mediated luminescence reaction without affecting a subsequent distinct enzyme-mediated luminescent reaction(s). An assay kit containing one or more selective quench reagents, and compns. comprising the quench reagent(s), are also provided.

L22 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:698213 CAPLUS
DOCUMENT NUMBER: 141:221282
TITLE: Mutant Rhodococcus dehalogenase and functionalized chloroalkane substrates useful for covalent tethering of functional groups to proteins
INVENTOR(S): Wood, Keith V.; Los, Georgyi V.; Bulleit, Robert F.; Klaubert, Dieter; Mcdougall, Mark; Zimprich, Chad
PATENT ASSIGNEE(S): Promega Corporation, USA
SOURCE: PCT Int. Appl., 185 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004072232	A2	20040826	WO 2004-US2607	20040130
WO 2004072232	C2	20041014		
WO 2004072232	A3	20050127		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI				
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AU 2004211584	A1	20040826	AU 2004-211584	20040130
CA 2514564	AA	20050726	CA 2004-2514564	20040130
EP 1594962	A2	20051116	EP 2004-707032	20040130
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1764721	A	20060426	CN 2004-80008194	20040130

PRIORITY APPLN. INFO.:		
US 2003-444094P	P	20030131
US 2003-474659P	P	20030530
WO 2004-US2607	W	20040130

OTHER SOURCE(S): MARPAT 141:221282

AB A mutant hydrolase optionally fused to a protein of interest is provided. Thus, Rhodococcus haloalkane dehalogenase DhaA with His-272 substituted with Phe is capable of forming a bond with a chloroalkane substrate for the corresponding nonmutant (wild-type) hydrolase which is more stable than the bond formed between the wild-type hydrolase and the substrate. The chloroalkane substrate contains a functional group which binds Ca2+ or K+ , or Na+, is pH sensitive, is a radionuclide, is electron opaque, is a chromophore or fluorophore, is a MRI contrast agent, is a substance that fluoresces in the presence of NO, or is sensitive to reactive oxygen. Substrates for hydrolases comprising one or more functional groups are synthesized comprising TAMRA-, FAM-, and ROX.5-C14H24O4-Cl or biotin-C18H32O4-Cl, as methods of using the mutant DhaA and the substrates of the invention for cell imaging in vivo are provided. Mutant Staphylococcus aureus β-lactamase (blaZ)-based tethering of functional groups is also demonstrated. Also provided is a fusion protein capable of forming a stable bond with a substrate and cells which express the fusion protein.

L22 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:570131 CAPLUS
DOCUMENT NUMBER: 141:119301
TITLE: Improving the accuracy of luciferase-based assays for high throughput screening by using tolerance enhancement agents
INVENTOR(S): Hawkins, Erika; Cali, James J.; Ho, Samuel Kin Sang; O'Brien, Martha; Somberg, Richard; Bulleit, Robert F.; Wood, Keith V.
PATENT ASSIGNEE(S): Promega Corporation, USA
SOURCE: PCT Int. Appl., 68 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004059294	A2	20040715	WO 2003-US41454	20031223
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CA 2508072	AA	20040715	CA 2003-2508072	20031223
AU 2003300008	A1	20040722	AU 2003-300008	20031223
US 2005026171	A1	20050203	US 2003-746995	20031223
EP 1588143	A2	20051026	EP 2003-800272	20031223
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PRIORITY APPLN. INFO.:

US 2002-436173P	P	20021223
US 2003-444264P	P	20030131
US 2003-447334P	P	20030213
WO 2003-US41454	W	20031223

AB The invention concerns methods and kits for improving the accuracy of luciferase-based assays for high throughput screening of compound libraries by reducing the number of false hits. A method and kit is provided for enhancing the tolerance of an assay reagent to compds. in an assay sample, the assay reagent including a luciferase enzyme. The method includes contacting the luciferase with a tolerance enhancement agent in an amount sufficient to substantially protect luciferase enzyme activity from interference of the compound and minimize interference by at least about 10% relative to an assay not having tolerance enhancement agent. Tolerance-enhancing effect of detergents on the inhibition of luciferase was studied. Minimization of false hit occurrence using tolerance enhancement agents such as detergents was demonstrated.

L22 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:270174 CAPLUS
DOCUMENT NUMBER: 140:299425
TITLE: Luminescent cytochrome P 450 assay using luciferase, luciferin derivatives and pyrophosphatase, and drug screening applications

INVENTOR(S): Cali, James J.; Klaubert, Dieter; Daily, William; Ho, Samuel Kin Sang; Frackman, Susan; Hawkins, Erika; Wood, Keith V.
PATENT ASSIGNEE(S): Promega Corporation, USA
SOURCE: PCT Int. Appl., 130 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004027378	A2	20040401	WO 2003-US29078	20030916
WO 2004027378	A3	20041125		
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2497560	AA	20040401	CA 2003-2497560	20030916
AU 2003267245	A1	20040408	AU 2003-267245	20030916
EP 1546162	A2	20050629	EP 2003-749715	20030916
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JP 2006508339	T2	20060309	JP 2004-537859	20030916
US 2004171099	A1	20040902	US 2003-665314	20030919
PRIORITY APPLN. INFO.:			US 2002-412254P P	20020920
			US 2003-483309P P	20030627
			WO 2003-US29078 W	20030916

OTHER SOURCE(S): MARPAT 140:299425

AB The present invention provides methods, compns., substrates, and kits useful for analyzing the metabolic activity in cells, tissue, and animals and for screening test compds. for their effect on cytochrome P 450 activity. In particular, a one-step and two-step methods using luminogenic mols., e.g. luciferin or coelenterazines, that are cytochrome P 450 substrates and that are also bioluminescent enzyme, e.g., luciferase, pro-substrates are provided. Upon addition of the luciferin derivative or other luminogenic mol. into a P 450 reaction, the P 450 enzyme metabolizes the mol. into a bioluminescent enzyme substrate, e.g., luciferin and/or luciferin derivative metabolite, in a P 450 reaction. The resulting metabolite(s) serves as a substrate of the bioluminescent enzyme, e.g., luciferase, in a second light-generating reaction. Luminescent cytochrome P 450 assays with low background signals and high sensitivity are disclosed and isoform selectivity is demonstrated. The present invention also provides an improved method for performing luciferase reactions which employs added pyrophosphatase to remove inorg. pyrophosphate, a luciferase inhibitor which may be present in the reaction mixture as a contaminant or may be generated during the reaction. The present method further provides a method for stabilizing and prolonging the luminescent signal in a luciferase-based assay using luciferase stabilizing agents such as reversible luciferase inhibitors.

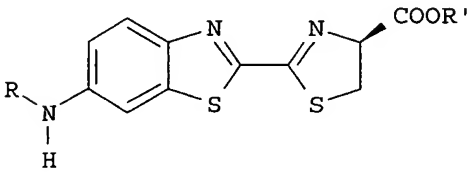
L22 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:633682 CAPLUS
DOCUMENT NUMBER: 139:193612
TITLE: Bioluminescent protease assay using aminoluciferin linked to peptide substrate and luciferase
INVENTOR(S): O'Brian, Martha; Wood, Keith; Klaubert, Dieter; Daily, Bill
PATENT ASSIGNEE(S): Promega Corporation, USA
SOURCE: PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003066611	A1	20030814	WO 2003-US2936	20030131
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2474695	AA	20030814	CA 2003-2474695	20030131
AU 2003216139	A1	20030902	AU 2003-216139	20030131
US 2003211560	A1	20031113	US 2003-356665	20030131
EP 1472238	A1	20041103	EP 2003-737580	20030131
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2005530485	T2	20051013	JP 2003-565985	20030131
US 2006121546	A1	20060608	US 2006-347054	20060203

PRIORITY APPLN. INFO.:	US 2002-353158P	P	20020201
	US 2003-356665	A3	20030131
	WO 2003-US2936	W	20030131

GI



I

AB A sensitive bioluminescent assay to detect proteases including caspases, trypsin and tryptase is provided. The method comprises contacting a sample suspected of having one or more caspases with a mixture comprising beetle luciferase and an aminomodified beetle aminoluciferin or a carboxyterminal protected derivative thereof, wherein the amino group of aminoluciferin or the derivative thereof is modified so as to covalently link a substrate for the caspase via a peptide bond to aminoluciferin or the carboxyterminal protected derivative thereof. If the sample comprises a caspase having a recognition site in the substrate, the substrate is

cleaved at the peptide bond that links the substrate to aminoluciferin, yielding aminoluciferin, a substrate for the luciferase, in the mixture Luminescence is then detected. The method further comprises correlating luminescence with protease concentration or activity, i.e., increased luminescence correlates with increased protease concentration or activity. Also

provided is a compound comprising aminoluciferin or a carboxyterminal protected derivative thereof covalently linked via a peptide bond to a protease recognition site such as a caspase recognition site, a trypsin recognition site, or a tryptase recognition site. A specific compound of the invention is a compound of formula I (R = peptide with an aspartic acid, lysine, or arginine C-terminus; R' = H, carboxy protecting group, e.g., C1-6-alkyl, Ph, benzyl ester, counterion). The invention also provides synthetic processes and intermediates disclosed herein, which are useful for preparing compds. of the invention. As described herein below, using a substrate for caspase 3 and 7 that was linked to either aminoluciferin or rhodamine-110, it was found that the limit of detection for the aminoluciferin-based substrate was 0.2 to 0.5 μU of purified caspase while that for the rhodamine-110-based substrate was 10 μU. As also described herein, it was found that the limit of detection of caspase expressing cells with the aminoluciferin-based substrate was 15 cells at 1 h while the limit of detection for the rhodamine-1 10-based substrate was 150 cells at 1 h.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:376823 CAPLUS
DOCUMENT NUMBER: 138:365147
TITLE: Compositions, methods and kits pertaining to luminescent compounds
INVENTOR(S): Wood, Keith; Hawkins, Erika; Scurria, Mike; Klaubert, Dieter
PATENT ASSIGNEE(S): Promega Corporation, USA
SOURCE: PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003040100	A1	20030515	WO 2002-US34972	20021101
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003153090	A1	20030814	US 2001-53482	20011102
CA 2462506	AA	20030515	CA 2002-2462506	20021101
EP 1451155	A1	20040901	EP 2002-802815	20021101
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK				

JP 2005515977 T2 20050602 JP 2003-542146 20021101
PRIORITY APPLN. INFO.: US 2001-53482 A 20011102
WO 2002-US34972 W 20021101
OTHER SOURCE(S): MARPAT 138:365147
AB A method of measuring the enzymic activity of a luciferase includes contacting a luminogenic protein, such as a luciferase, with a protected luminophore to form a composition; and detecting light produced from the composition
The protected luminophore provides increased stability and improved signal-to-background ratios relative to the corresponding unmodified coelenterazine.
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:108790 CAPLUS
DOCUMENT NUMBER: 139:129758
TITLE: Coelenterazine derivatives for improved solution solubility
AUTHOR(S): Hawkins, Erika M.; O'Grady, Michael; Klaubert, Dieter; Scurria, Michael; Good, Troy; Stratford, Cathy; Flemming, Rod; Simpson, Dan; Wood, Keith V.
CORPORATE SOURCE: Promega Corporation, Madison, WI, 53715, USA
SOURCE: Bioluminescence & Chemiluminescence: Progress & Current Applications, [Proceedings of the Symposium on Bioluminescence and Chemiluminescence], 12th, Cambridge, United Kingdom, Apr. 5-9, 2002 (2002), 149-152. Editor(s): Stanley, Philip E.; Kricka, Larry J. World Scientific Publishing Co. Pte. Ltd.: Singapore, Singapore.
CODEN: 69DPGZ; ISBN: 981-238-156-2
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Intracellular luminescent techniques requiring coelenterazine, such as bioluminescence resonance energy transfer (BRET), calcium detection, and intracellular reporter measurements, must accommodate the poor stability of this substrate in physiol. buffered solns. Coelenterazine degradation leads both to loss of luminescence over time, and increased background luminescence caused by enzyme-independent oxidation (autoluminescence). Both conditions limit luminescence sensitivity by reducing the signal-to-noise ratio. Coelenterazine can be stabilized by derivatizing the enol oxygen with an acyl oxymethyl ether. This prevents spontaneous oxidation in solution while making the substrate available intracellularly upon cleavage of the blocking group by endogenous esterases. We will describe the stability of pivaloyl oxymethyl coelenterazine-h (POM coelenterazine-h), and the effect of POM coelenterazine-h on intracellular luminescence, autoluminescence, and luminescent reaction kinetics. Also, we will present the characteristics of two other coelenterazine derivs.

L22 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:924094 CAPLUS
DOCUMENT NUMBER: 136:50649
TITLE: Method for increasing luminescence assay sensitivity
INVENTOR(S): Hawkins, Erika; Centanni, John M.; Sankbeil, Jacqueline; Wood, Keith V.
PATENT ASSIGNEE(S): Promega Corporation, USA
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001096862	A2	20011220	WO 2001-US18363	20010607
WO 2001096862	A3	20020718		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2411179	AA	20011220	CA 2001-2411179	20010607
EP 1297337	A2	20030402	EP 2001-942027	20010607
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
JP 2004503777	T2	20040205	JP 2002-510941	20010607
US 2004096924	A1	20040520	US 2003-692587	20031024
US 2006051827	A1	20060309	US 2004-991759	20041118

PRIORITY APPLN. INFO.:

US 2000-590884	A	20000609
WO 2001-US18363	W	20010607
US 2003-692587	A3	20031024

AB A method for increasing the sensitivity of a luminescent assay comprising carrying out the assay in the presence of an organic compound that reduces luminescence that is not dependent on the presence of an analyte by at least about 10 fold, and that reduces luminescence that is dependent on the presence of an analyte by less than about 7 fold.

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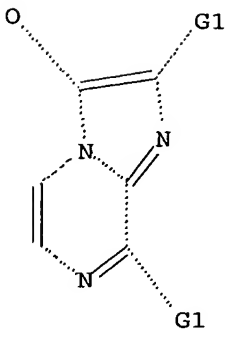
L1 STR

Cy 1



G1 Ak,H,[@1]

Structure attributes must be viewed using STN Express query preparation.

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L4            24 SEA FILE=CAPLUS ABB=ON  PLU=ON  L3
L8             1 SEA FILE=CAPLUS ABB=ON  PLU=ON  WO2002-US34972/APPS
L9            24 SEA FILE=CAPLUS ABB=ON  PLU=ON  (L4 OR L8)
L10           11 SEA FILE=REGISTRY ABB=ON  PLU=ON  (50909-86-9/BI OR 524066-91-9
                 /BI OR 524066-92-0/BI OR 524066-93-1/BI OR 524066-94-2/BI OR
                 524066-95-3/BI OR 524066-96-4/BI OR 55779-48-1/BI OR 61869-41-8
                 /BI OR 65417-16-5/BI OR 70217-82-2/BI)
L11            7 SEA FILE=REGISTRY ABB=ON  PLU=ON  L10 AND L3
L23            4 SEA FILE=CAPLUS ABB=ON  PLU=ON  L11
L24           24 SEA FILE=CAPLUS ABB=ON  PLU=ON  (L23 OR L9)
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L24 ANSWER 1 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:397579 CAPLUS
DOCUMENT NUMBER: 143:419154
TITLE: Chemical studies of fish bioluminescence
AUTHOR(S): Kakoi, Hisae; Okada, Kunisuke
CORPORATE SOURCE: Faculty of Pharmacy, Meijo University, Tempaku-ku, Nagoya, 468-8503, Japan
SOURCE: ITE Letters on Batteries, New Technologies & Medicine (2005), 6(1), 38-45
CODEN: ILBMF9; ISSN: 1531-2046
PUBLISHER: ITE Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

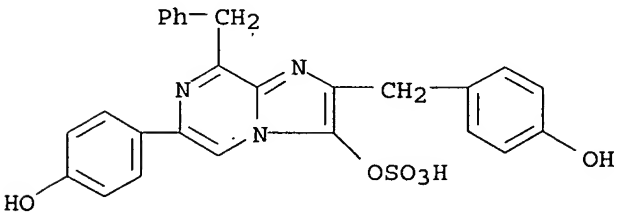
AB Watasenia preluciferin (I), first isolated from the squid Watasenia scintillans, is a compound that plays a key role in the light emitting

process of various bioluminescent marine organisms such as squids, shrimps, coelenterates, and fish. In the case of luminous fish, a well-known species is Myctophiformes and Stomiiformes especially the deep-sea photophores-possessing Myctophiformes fish (lantern fish), which is one of the most common and widely distributed luminous fish living in Suruga Bay and all throughout the Sea of Enshu and Kumano. Compound I was isolated either from the liver of Neoscopelus microchir (in Japanese, Sango-iwashi) or from a pair of large nasal photophores from Diaphus gigas (in Japanese, Suito-hadaka) while it was found neither in the photophores of N. microchir nor in the liver of D. gigas. On the other hand, a luciferase active toward Oplophorus luciferin (=Watasenia preluciferin) I was extracted from the flesh of D. gigas, whereas no luciferase active toward I or Cypridina luciferin was found in N. microchir. Later, a new type of bound form of I was isolated from the liver of D. gigas and the structure was established as Diaphus luciferyl β-glucopyranosiduronic acid (II) on the basis of the spectral data and chemical evidence, and by synthesis starting from I. This compound II was also detected in the liver of Diaphus watasei (in Japanese, Hadaka-iwashi) and other examined Myctophiformes fish, but not in the liver of N. microchir. It is uncertain as to which system is more favorable for the fish bioluminescence, however, as far as I is concerned, the Diaphus bioluminescent system is comparable to that of Watasenia or Oplophorus, and not to that of Cypridina as previously observed by Tsuji et al. in 1971.

IT 55779-47-0
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(chemical studies of fish bioluminescence)

RN 55779-47-0 CAPLUS

CN Imidazo[1,2-a]pyrazin-3-ol, 6-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)methyl]-8-(phenylmethyl)-, 3-(hydrogen sulfate) (9CI) (CA INDEX NAME)

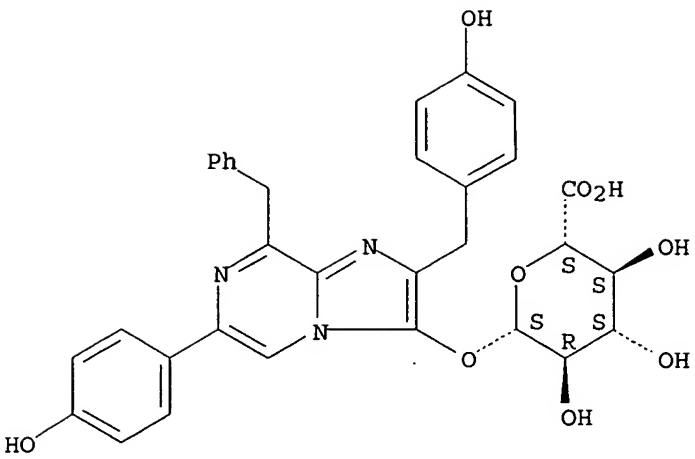


IT 107503-09-3P
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(chemical studies of fish bioluminescence)

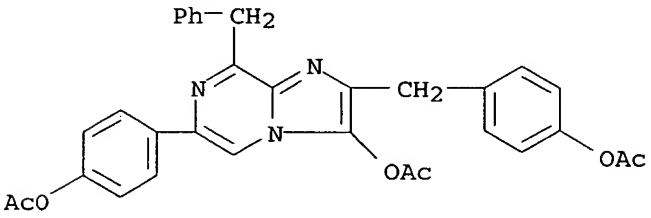
RN 107503-09-3 CAPLUS

CN β-D-Glucopyranosiduronic acid, 6-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)methyl]-8-(phenylmethyl)imidazo[1,2-a]pyrazin-3-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

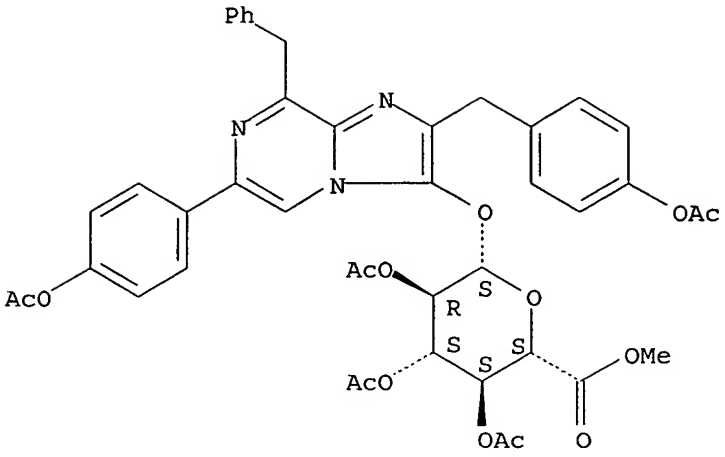


IT 65417-16-5P 107503-11-7P 867375-43-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate in preparation of luciferyl β-glucopyranosiduronic acid)
RN 65417-16-5 CAPLUS
CN Imidazo[1,2-a]pyrazin-3-ol, 6-[4-(acetyloxy)phenyl]-2-[[4-(acetyloxy)phenyl]methyl]-8-(phenylmethyl)-, acetate (ester) (9CI) (CA INDEX NAME)

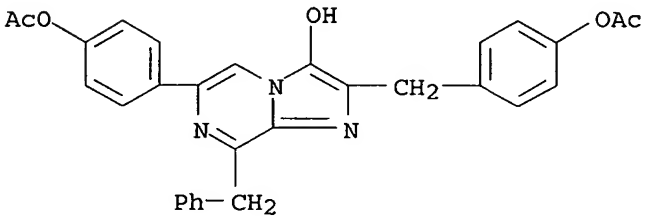


RN 107503-11-7 CAPLUS
CN β-D-Glucopyranosiduronic acid, 6-[4-(acetyloxy)phenyl]-2-[[4-(acetyloxy)phenyl]methyl]-8-(phenylmethyl)imidazo[1,2-a]pyrazin-3-yl, methyl ester, 2,3,4-triacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 867375-43-7 CAPLUS
CN Imidazo[1,2-a]pyrazin-3-ol, 6-[4-(acetyloxy)phenyl]-2-[[4-(acetyloxy)phenyl]methyl]-8-(phenylmethyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 2 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:270174 CAPLUS
DOCUMENT NUMBER: 140:299425
TITLE: Luminescent cytochrome P 450 assay using luciferase, luciferin derivatives and pyrophosphatase, and drug screening applications
INVENTOR(S): Cali, James J.; Klaubert, Dieter; Daily, William; Ho, Samuel Kin Sang; Frackman, Susan; Hawkins, Erika; Wood, Keith V.
PATENT ASSIGNEE(S): Promega Corporation, USA
SOURCE: PCT Int. Appl., 130 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004027378	A2	20040401	WO 2003-US29078	20030916
WO 2004027378	A3	20041125		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,

GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CA 2497560	AA	20040401	CA 2003-2497560	20030916
AU 2003267245	A1	20040408	AU 2003-267245	20030916
EP 1546162	A2	20050629	EP 2003-749715	20030916
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2006508339	T2	20060309	JP 2004-537859	20030916
US 2004171099	A1	20040902	US 2003-665314	20030919
PRIORITY APPLN. INFO.:			US 2002-412254P	P 20020920
			US 2003-483309P	P 20030627
			WO 2003-US29078	W 20030916

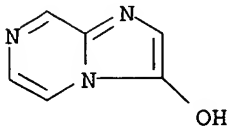
OTHER SOURCE(S): MARPAT 140:299425

AB The present invention provides methods, compns., substrates, and kits useful for analyzing the metabolic activity in cells, tissue, and animals and for screening test compds. for their effect on cytochrome P 450 activity. In particular, a one-step and two-step methods using luminogenic mols., e.g. luciferin or coelenterazines, that are cytochrome P 450 substrates and that are also bioluminescent enzyme, e.g., luciferase, pro-substrates are provided. Upon addition of the luciferin derivative or other luminogenic mol. into a P 450 reaction, the P 450 enzyme metabolizes the mol. into a bioluminescent enzyme substrate, e.g., luciferin and/or luciferin derivative metabolite, in a P 450 reaction. The resulting metabolite(s) serves as a substrate of the bioluminescent enzyme, e.g., luciferase, in a second light-generating reaction. Luminescent cytochrome P 450 assays with low background signals and high sensitivity are disclosed and isoform selectivity is demonstrated. The present invention also provides an improved method for performing luciferase reactions which employs added pyrophosphatase to remove inorg. pyrophosphate, a luciferase inhibitor which may be present in the reaction mixture as a contaminant or may be generated during the reaction. The present method further provides a method for stabilizing and prolonging the luminescent signal in a luciferase-based assay using luciferase stabilizing agents such as reversible luciferase inhibitors.

IT 676460-49-4D, Imidazo[1,2-a]pyrazin-3-ol, derivs.
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(luminescent cytochrome P 450 assay using luciferase, luciferin derivs. and pyrophosphatase, and drug screening applications)

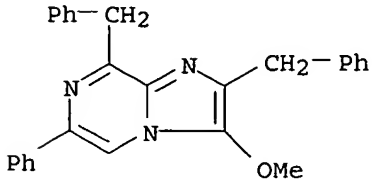
RN 676460-49-4 CAPLUS

CN Imidazo[1,2-a]pyrazin-3-ol (9CI) (CA INDEX NAME)

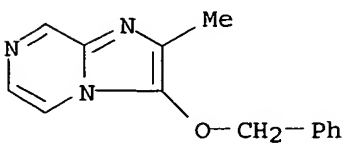


IT 676460-47-2P, Coelenterazine HH methyl ether
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(luminescent cytochrome P 450 assay using luciferase, luciferin derivs.

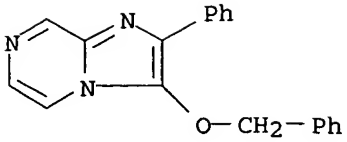
and pyrophosphatase, and drug screening applications)
RN 676460-47-2 CAPLUS
CN Imidazo[1,2-a]pyrazine, 3-methoxy-6-phenyl-2,8-bis(phenylmethyl)- (9CI) (CA INDEX NAME)



L24 ANSWER 3 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:40051 CAPLUS
DOCUMENT NUMBER: 140:429758
TITLE: Metal-ion complexation of imidazo[1,2-a]pyrazin-3(7H)-ones: continuous changes in absorption spectra of complexes depending on the Lewis acidity of the metal ion
AUTHOR(S): Sekiguchi, Takashi; Maki, Shojiro; Niwa, Haruki; Ikeda, Hiroshi; Hirano, Takashi
CORPORATE SOURCE: Department of Applied Physics and Chemistry, The University of Electro-Communications, Chofu, Tokyo, 182-8585, Japan
SOURCE: Tetrahedron Letters (2004), 45(5), 1065-1069
CODEN: TELEAY; ISSN: 0040-4039
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The spectroscopic properties of metal-ion complexes of several imidazopyrazinone derivs. with Li+, Mg2+, Ca2+, Ba2+, Sc3+, and La3+ ions were studied. The spectral characteristics and the formation consts. of the complexes changed continuously depending on the Lewis acidity of the metal ion, suggesting that the imidazopyrazinones can find application as indicators of Lewis acidity. In the case of bis-imidazopyrazinone derivs., the complexation abilities were enhanced by chelate effects.
IT 693252-73-2P 693252-74-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(formation of metal-ion complexes with imidazopyrazinones and dependence of their absorption spectra on metal-ion Lewis acidity)
RN 693252-73-2 CAPLUS
CN Imidazo[1,2-a]pyrazine, 2-methyl-3-(phenylmethoxy)- (9CI) (CA INDEX NAME)



RN 693252-74-3 CAPLUS
CN Imidazo[1,2-a]pyrazine, 2-phenyl-3-(phenylmethoxy)- (9CI) (CA INDEX NAME)

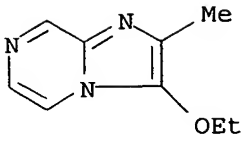


REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

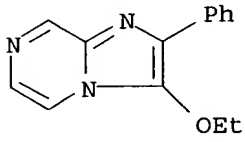
L24 ANSWER 4 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:1005621 CAPLUS
DOCUMENT NUMBER: 140:181114
TITLE: Fundamental studies on the structures and spectroscopic properties of imidazo[1,2-a]pyrazin-3(7H)-one derivatives
AUTHOR(S): Nakai, Shunichiro; Yasui, Masanori; Nakazato, Masaki; Iwasaki, Fujiko; Maki, Shojiro; Niwa, Haruki; Ohashi, Mamoru; Hirano, Takashi
CORPORATE SOURCE: Department of Applied Physics and Chemistry, The University of Electro-Communications, Tokyo, 182-8585, Japan
SOURCE: Bulletin of the Chemical Society of Japan (2003), 76(12), 2361-2387
CODEN: BCSJA8; ISSN: 0009-2673
PUBLISHER: Chemical Society of Japan
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:181114

AB The fundamental phys. properties of 2-Me and 2-phenylimidazo[1,2-a]pyrazin-3(7H)-one , and their N- and O-alkylated derivs. were studied by x-ray crystallog., UV/visible absorption spectroscopy, NMR, and AM1-COSMO calcns. The crystal structures of showed that the imidazo[1,2-a]pyrazin-3(7H)-one (imidazopyrazinone) π-system has a planar ring structure and a weakened carbonyl character of the C3-O10 bond, suggesting that the imidazopyrazinone π-system has the character of a zwitter-ionic resonance structure to increase the aromaticity. The data concerning the bond length alternations and the NMR chemical shifts of 1-4 also support that their imidazopyrazinone rings have small portions of aromatic character. Imidazopyrazinone derivs. 1-4 showed solvatochromism originating by H-bonding interactions with H-bond donor solvent mols.; derivs. 1 and 2 prefer to be the NH form isomers in their tautomeric equilibrium These observations were consistently evaluated by MO calcns. The phys. properties of protonated species of 1-6 and anion species of 1 and 2 were also established. The fundamental properties of the imidazopyrazinone π-system explain the several problems of the chemi- and bioluminescence reactivities of imidazopyrazinone derivs. and of the construction of a bioluminescent supramol.

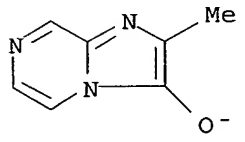
IT 659726-97-3P 659726-99-5P
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(fundamental studies on structures and spectral properties of imidazo[1,2-a]pyrazin-3(7H)-one derivs.)
RN 659726-97-3 CAPLUS
CN Imidazo[1,2-a]pyrazine, 3-ethoxy-2-methyl- (9CI) (CA INDEX NAME)



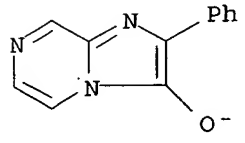
RN 659726-99-5 CAPLUS
CN Imidazo[1,2-a]pyrazine, 3-ethoxy-2-phenyl- (9CI) (CA INDEX NAME)



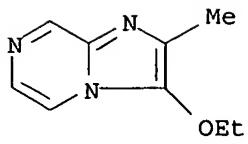
IT 659727-06-7 659727-07-8 659727-12-5
659727-13-6
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(fundamental studies on structures and spectral properties of imidazo[1,2-a]pyrazin-3(7H)-one derivs.)
RN 659727-06-7 CAPLUS
CN Imidazo[1,2-a]pyrazin-3-ol, 2-methyl-, ion(1-) (9CI) (CA INDEX NAME)



RN 659727-07-8 CAPLUS
CN Imidazo[1,2-a]pyrazin-3-ol, 2-phenyl-, ion(1-) (9CI) (CA INDEX NAME)

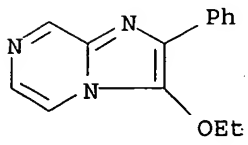


RN 659727-12-5 CAPLUS
CN Imidazo[1,2-a]pyrazine, 3-ethoxy-2-methyl-, conjugate monoacid (9CI) (CA INDEX NAME)



● H+

RN 659727-13-6 CAPLUS
CN Imidazo[1,2-a]pyrazine, 3-ethoxy-2-phenyl-, conjugate monoacid (9CI) (CA INDEX NAME)



● H+

REFERENCE COUNT: 82 THERE ARE 82 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 5 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:376823 CAPLUS
DOCUMENT NUMBER: 138:365147
TITLE: Compositions, methods and kits pertaining to luminescent compounds
INVENTOR(S): Wood, Keith; Hawkins, Erika; Scurria, Mike; Klaubert, Dieter
PATENT ASSIGNEE(S): Promega Corporation, USA
SOURCE: PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003040100	A1	20030515	WO 2002-US34972	20021101 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2003153090	A1	20030814	US 2001-53482	20011102

CA 2462506	AA	20030515	CA 2002-2462506		20021101 <--
EP 1451155	A1	20040901	EP 2002-802815		20021101 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK					
JP 2005515977	T2	20050602	JP 2003-542146		20021101 <--
PRIORITY APPLN. INFO.:			US 2001-53482	A	20011102
			WO 2002-US34972	W	20021101 <--

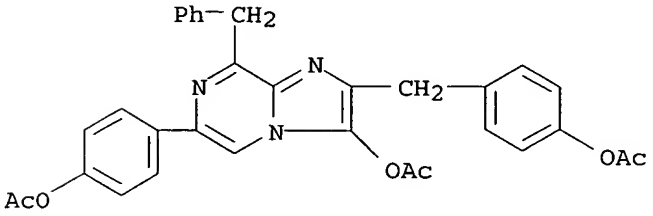
OTHER SOURCE(S): MARPAT 138:365147

AB A method of measuring the enzymic activity of a luciferase includes contacting a luminogenic protein, such as a luciferase, with a protected luminophore to form a composition; and detecting light produced from the composition
The protected luminophore provides increased stability and improved signal-to-background ratios relative to the corresponding unmodified coelenterazine.

IT 65417-16-5P 524066-91-9P 524066-92-0P
524066-93-1P 524066-94-2P 524066-95-3P
524066-96-4P
RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(compns., methods and kits pertaining to luminescent compds.)

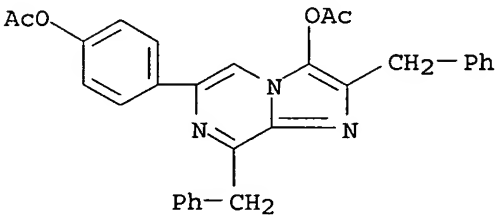
RN 65417-16-5 CAPLUS

CN Imidazo[1,2-a]pyrazin-3-ol, 6-[4-(acetyloxy)phenyl]-2-[[4-(acetyloxy)phenyl]methyl]-8-(phenylmethyl)-, acetate (ester) (9CI) (CA INDEX NAME)



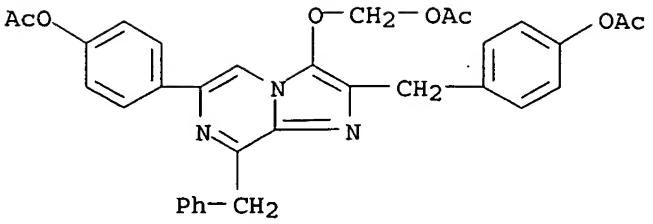
RN 524066-91-9 CAPLUS

CN Imidazo[1,2-a]pyrazin-3-ol, 6-[4-(acetyloxy)phenyl]-2,8-bis(phenylmethyl)-, acetate (ester) (9CI) (CA INDEX NAME)

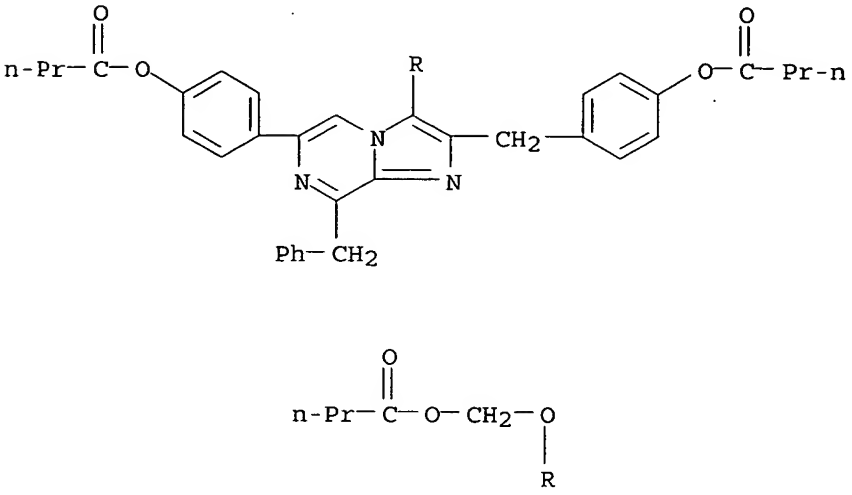


RN 524066-92-0 CAPLUS

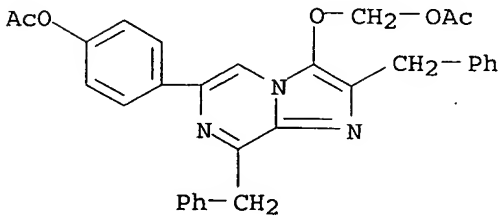
CN Phenol, 4-[3-[(acetyloxy)methoxy]-2-[[4-(acetyloxy)phenyl]methyl]-8-(phenylmethyl)imidazo[1,2-a]pyrazin-6-yl]-, acetate (ester) (9CI) (CA INDEX NAME)



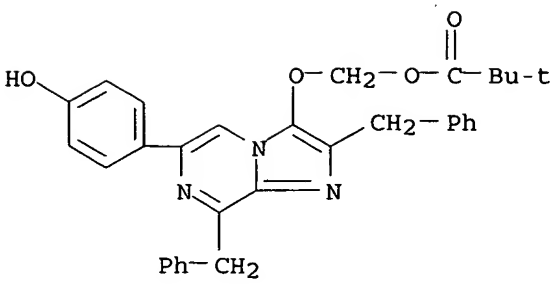
RN 524066-93-1 CAPLUS
CN Butanoic acid, 4-[3-[(1-oxobutoxy)methoxy]-2-[[4-(1-oxobutoxy)phenyl]methyl]-8-(phenylmethyl)imidazo[1,2-a]pyrazin-6-yl]phenyl ester (9CI) (CA INDEX NAME)



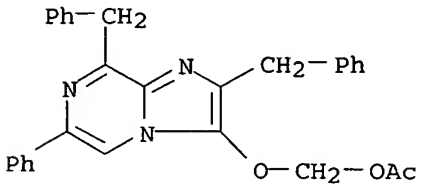
RN 524066-94-2 CAPLUS
CN Phenol, 4-[3-[(acetyloxy)methoxy]-2,8-bis(phenylmethyl)imidazo[1,2-a]pyrazin-6-yl]-, acetate (ester) (9CI) (CA INDEX NAME)



RN 524066-95-3 CAPLUS
CN Propanoic acid, 2,2-dimethyl-, [[6-(4-hydroxyphenyl)-2,8-bis(phenylmethyl)imidazo[1,2-a]pyrazin-3-yl]oxy]methyl ester (9CI) (CA INDEX NAME)



RN 524066-96-4 CAPLUS
CN Methanol, [[6-phenyl-2,8-bis(phenylmethyl)imidazo[1,2-a]pyrazin-3-yl]oxy]-, acetate (ester) (9CI) (CA INDEX NAME)



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

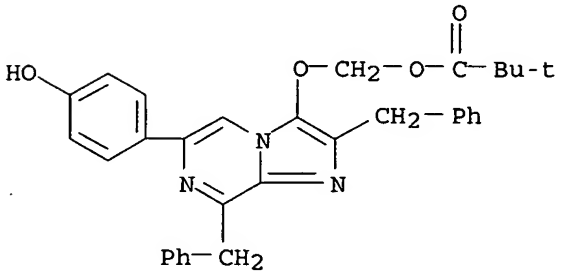
L24 ANSWER 6 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:108790 CAPLUS
DOCUMENT NUMBER: 139:129758
TITLE: Coelenterazine derivatives for improved solution solubility
AUTHOR(S): Hawkins, Erika M.; O'Grady, Michael; Klaubert, Dieter; Scurria, Michael; Good, Troy; Stratford, Cathy; Flemming, Rod; Simpson, Dan; Wood, Keith V.
CORPORATE SOURCE: Promega Corporation, Madison, WI, 53715, USA
SOURCE: Bioluminescence & Chemiluminescence: Progress & Current Applications, [Proceedings of the Symposium on Bioluminescence and Chemiluminescence], 12th, Cambridge, United Kingdom, Apr. 5-9, 2002 (2002), 149-152. Editor(s): Stanley, Philip E.; Kricka, Larry J. World Scientific Publishing Co. Pte. Ltd.: Singapore, Singapore.
CODEN: 69DPGZ; ISBN: 981-238-156-2
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Intracellular luminescent techniques requiring coelenterazine, such as bioluminescence resonance energy transfer (BRET), calcium detection, and intracellular reporter measurements, must accommodate the poor stability of this substrate in physiol. buffered solns. Coelenterazine degradation leads both to loss of luminescence over time, and increased background luminescence caused by enzyme-independent oxidation (autoluminescence). Both conditions limit luminescence sensitivity by reducing the signal-to-noise ratio. Coelenterazine can be stabilized by derivatizing the enol oxygen with an acyl oxymethyl ether. This prevents spontaneous oxidation in solution while making the substrate available intracellularly upon cleavage of the blocking group by endogenous esterases. We will describe the stability of

pivaloyl oxymethyl coelenterazine-h (POM coelenterazine-h), and the effect of POM coelenterazine-h on intracellular luminescence, autoluminescence, and luminescent reaction kinetics. Also, we will present the characteristics of two other coelenterazine derivs.

IT 524066-95-3D, diacetyl derivative 566945-96-8
RL: BSU (Biological study, unclassified); BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(coelenterazine derivs. for improved solution solubility)

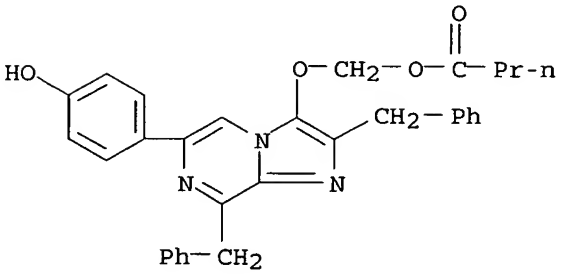
RN 524066-95-3 CAPLUS

CN Propanoic acid, 2,2-dimethyl-, [[6-(4-hydroxyphenyl)-2,8-bis(phenylmethyl)imidazo[1,2-a]pyrazin-3-yl]oxy]methyl ester (9CI) (CA INDEX NAME)



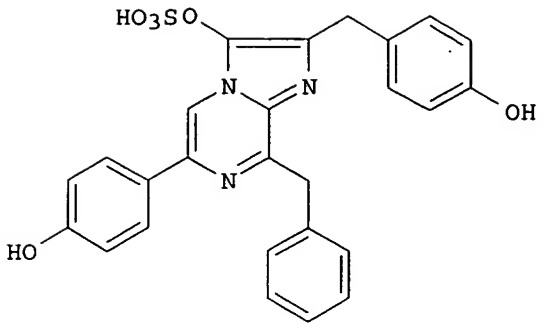
RN 566945-96-8 CAPLUS

CN Butanoic acid, [[6-(4-hydroxyphenyl)-2,8-bis(phenylmethyl)imidazo[1,2-a]pyrazin-3-yl]oxy]methyl ester (9CI) (CA INDEX NAME)

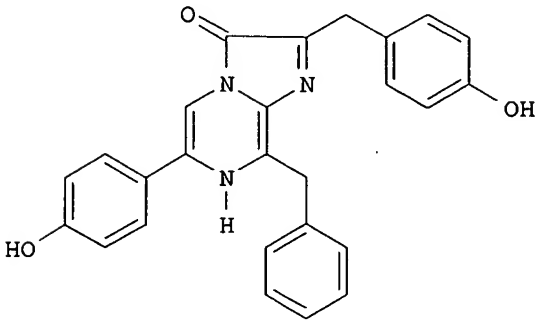


L24 ANSWER 7 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:906075 CAPLUS
DOCUMENT NUMBER: 138:153360
TITLE: Efficient synthesis of Renilla preluciferin
AUTHOR(S): Teranishi, Katsunori
CORPORATE SOURCE: Faculty of Bioresources, Mie University, Tsu, Mie, 514-8507, Japan
SOURCE: ITE Letters on Batteries, New Technologies & Medicine (2002), 3(4), 479-480
CODEN: ILBMF9; ISSN: 1531-2046
PUBLISHER: ITE-IBA Publication Office
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 138:153360
GI



I



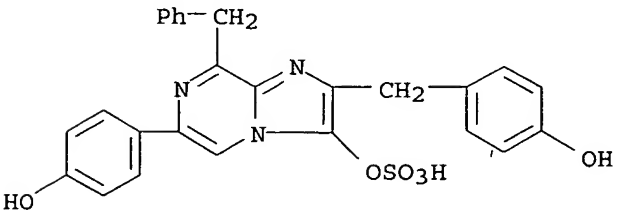
II

AB Renilla luciferyl sulfate that is Renilla preluciferin I was efficiently synthesized by one-step procedure from coelenterazine (II).

IT 55779-47-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(efficient synthesis of Renilla preluciferin via sulfation of coelenterazine)

RN 55779-47-0 CAPLUS

CN Imidazo[1,2-a]pyrazin-3-ol, 6-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)methyl]-8-(phenylmethyl)-, 3-(hydrogen sulfate) (9CI) (CA INDEX NAME)



REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 8 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:851130 CAPLUS
DOCUMENT NUMBER: 135:371764
TITLE: Preparation of aminopyrazines and imidazolopyrazinones as

antioxidants

INVENTOR(S): Marchand-Brynaert, Jacqueline; Cavalier, Jean-Francois; Rees, Jean-Francois; De Tollenaere, Catherine; Burton, Maggi

PATENT ASSIGNEE(S): Universite Catholique de Louvain, Belg.

SOURCE: PCT Int. Appl., 57 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001087853	A1	20011122	WO 2001-EP5588	20010516
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1292580	A1	20030319	EP 2001-943383	20010516
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2004034225	A1	20040219	US 2003-276398	20030728

PRIORITY APPLN. INFO.:

EP 2000-870107	A	20000517
EP 2000-870293	A	20001212
WO 2001-EP5588	W	20010516

OTHER SOURCE(S): CASREACT 135:371764; MARPAT 135:371764

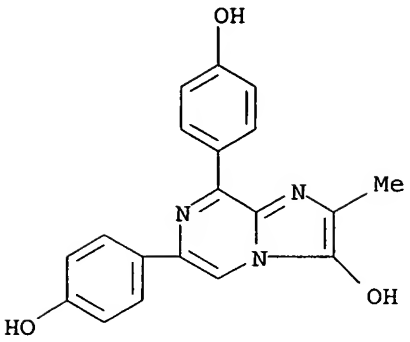
AB Antioxidants, 5 2-amino-(p-hydroxyphenyl)pyrazines and 3 (p-hydroxyphenyl)-3,7-dihydroimidazo[1,2-a]pyrazin-3-ones were prepared and claimed useful in diagnostic procedures, as food additives, polymer additives and as UV screens in cosmetics. E.g., 2-amino-3,5-dibromopyrazine was treated with p-methoxyphenylboronic acid in the presence of bis(benzonitrile)palladium dichloride and 1,4-bis(diphenylphosphino)butane in a solvent mix of EtOH, aqueous sodium carbonate and toluene to give 66% 2-amino-3,5-bis(p-methoxyphenyl)pyrazine, which was demethylated with EtSNa in DMF to give 88% 2-amino-3,5-bis(p-hydroxyphenyl)pyrazine (I). In tests on inhibition of lipid peroxidn. 2-aminopyrazines possessing 2 aryl substituents, one of them being a p-hydroxyphenyl in o- or p- position with respect to the amino group, are endowed with antioxidative properties. However, the p-hydroxyphenyl conferred more activity when located at position 5 than at position 3. The presence of p-hydroxyphenyl groups at both positions 3 and 5 as in I produced a very active compound Analogs lacking the free phenol groups showed reduced activities. Corresponding imidazolopyrazinones combined the properties of both the imidazolopyrazinones (delay of the onset of peroxidn.) and the aminopyrazines (lower rate of oxidation after onset).

IT 374588-75-7P 374588-76-8P 374588-77-9P
374588-78-0P
RL: FFD (Food or feed use); MOA (Modifier or additive use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of aminopyrazines and imidazolopyrazinones as antioxidants)

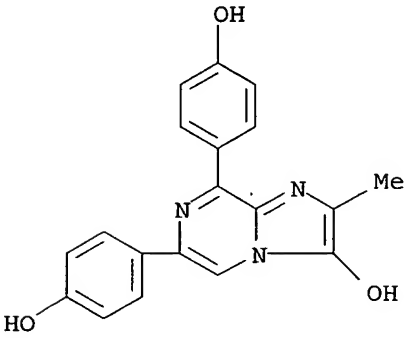
RN 374588-75-7 CAPLUS

CN Imidazo[1,2-a]pyrazin-3-ol, 6,8-bis(4-hydroxyphenyl)-2-methyl- (9CI) (CA

INDEX NAME)

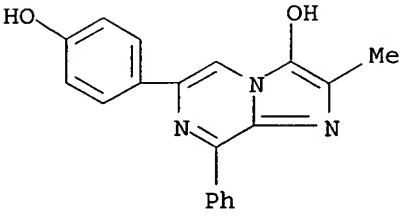


RN 374588-76-8 CAPLUS
CN Imidazo[1,2-a]pyrazin-3-ol, 6,8-bis(4-hydroxyphenyl)-2-methyl-, monohydrochloride (9CI) (CA INDEX NAME)

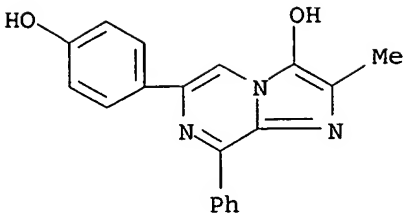


● HCl

RN 374588-77-9 CAPLUS
CN Imidazo[1,2-a]pyrazin-3-ol, 6-(4-hydroxyphenyl)-2-methyl-8-phenyl- (9CI) (CA INDEX NAME)

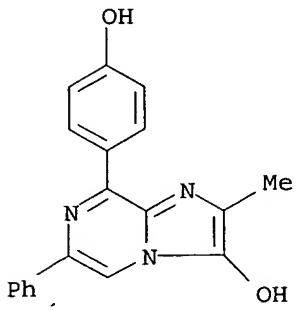


RN 374588-78-0 CAPLUS
CN Imidazo[1,2-a]pyrazin-3-ol, 6-(4-hydroxyphenyl)-2-methyl-8-phenyl-, monohydrochloride (9CI) (CA INDEX NAME)

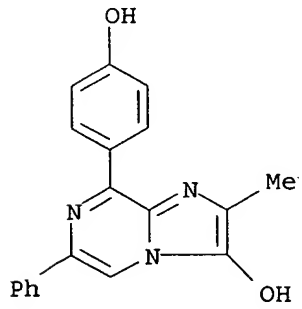


● HCl

IT 374588-79-1P 374588-80-4P 374588-85-9P
374588-86-0P 374588-87-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of aminopyrazines and imidazolopyrazinones as antioxidants)
RN 374588-79-1 CAPLUS
CN Imidazo[1,2-a]pyrazin-3-ol, 8-(4-hydroxyphenyl)-2-methyl-6-phenyl- (9CI)
(CA INDEX NAME)

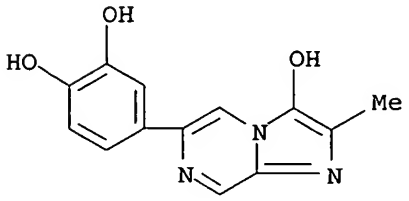


RN 374588-80-4 CAPLUS
CN Imidazo[1,2-a]pyrazin-3-ol, 8-(4-hydroxyphenyl)-2-methyl-6-phenyl-,
monohydrochloride (9CI) (CA INDEX NAME)

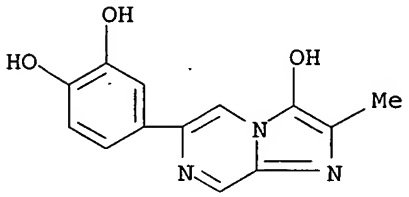


● HCl

RN 374588-85-9 CAPLUS
CN 1,2-Benzenediol, 4-(3-hydroxy-2-methylimidazo[1,2-a]pyrazin-6-yl)- (9CI) (CA INDEX NAME)

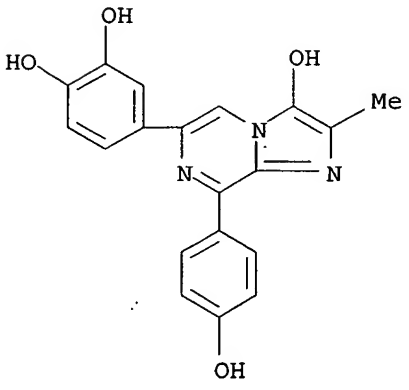


RN 374588-86-0 CAPLUS
CN 1,2-Benzenediol, 4-(3-hydroxy-2-methylimidazo[1,2-a]pyrazin-6-yl)-, monohydrochloride (9CI) (CA INDEX NAME)



● HCl

RN 374588-87-1 CAPLUS
CN 1,2-Benzenediol, 4-[3-hydroxy-8-(4-hydroxyphenyl)-2-methylimidazo[1,2-a]pyrazin-6-yl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

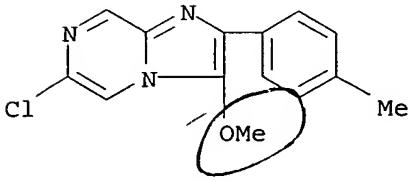
L24 ANSWER 9 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:725609 CAPLUS

DOCUMENT NUMBER: 130:104779
TITLE: Imidazo[1,2-b]pyridazines: syntheses and interaction with central and peripheral-type (mitochondrial) benzodiazepine receptors
AUTHOR(S): Barlin, Gordon B.
CORPORATE SOURCE: Division of Neuroscience, John Curtin School of Medical Research, Australian National University, Canberra, ACT 2601, Australia
SOURCE: Journal of Heterocyclic Chemistry (1998), 35(5), 1205-1217
CODEN: JHTCAD; ISSN: 0022-152X
PUBLISHER: HeteroCorporation
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The fundamental chemical of pyridazines, the syntheses of substituted imidazo[1,2-b]pyridazines (1) (and some related compds.) and the interaction of the products with central benzodiazepine receptors (CBR) and peripheral-type (mitochondrial) benzodiazepine receptors (PBR) are described. Some of these imidazo[1,2-b]pyridazines had high selective affinity for the central benzodiazepine receptors and others had high selectivity for the peripheral-type (mitochondrial) benzodiazepine receptors. The results of structure-activity studies and mol. modeling will be reported. In vivo tests of some compds. which interacted strongly with the central benzodiazepine receptors revealed reasonably potent anticonvulsant/anticonflict activity, and some of those which bind selectively to the peripheral-type (mitochondrial) benzodiazepine receptors are being examined as possible radiopharmaceuticals for imaging of tumors (and other disease states).

IT 142074-27-9
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(interaction with central and peripheral-type (mitochondrial) benzodiazepine receptors of imidazo[b]pyridazines in relation to anticonvulsant/anticonflict activity and activity as radiopharmaceuticals)

RN 142074-27-9 CAPLUS
CN Imidazo[1,2-a]pyrazine, 6-chloro-3-methoxy-2-(4-methylphenyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 80 THERE ARE 80 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 10 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1997:48722 CAPLUS
DOCUMENT NUMBER: 126:72331
TITLE: Chemiluminescent substrate for enzyme immunoassay
INVENTOR(S): Sakaki, Hidejiro; Mitani, Motohiro; Koinuma, Yasuyoshi; Totani, Yoshiaki
PATENT ASSIGNEE(S): Nippon Oils & Fats Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08294397	A2	19961112	JP 1995-125617	19950427
PRIORITY APPLN. INFO.:			JP 1995-125617	19950427

OTHER SOURCE(S): MARPAT 126:72331

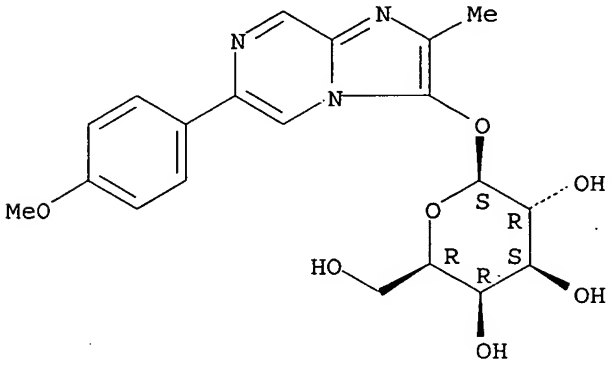
AB Chemiluminescent substrate for sugar-hydrolyzing enzyme is prepared for EIA. 3-(β-D-galactopyranosyloxy)-6-(4-methoxyphenyl)-2-methylimidazole[1,2-a]pyrazine was prepared from 6-(4-methoxyphenyl)-2-methyl-3-(tetra-O-acetyl-β-D-galactopyranosyloxy)imidazole[1,2-a]pyrazine, and used for chemiluminescent EIA.

IT 159503-66-9P
RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(chemiluminescent substrate for EIA using carbohydrate-hydrolyzing enzyme)

RN 159503-66-9 CAPLUS

CN β-D-Galactopyranoside, 6-(4-methoxyphenyl)-2-methylimidazo[1,2-a]pyrazin-3-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.

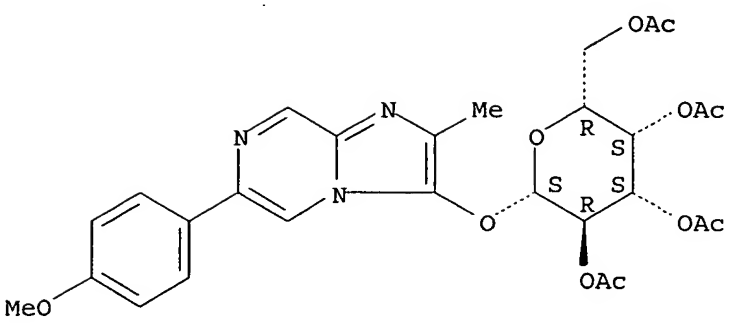


IT 177205-13-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(chemiluminescent substrate for EIA using carbohydrate-hydrolyzing enzyme)

RN 177205-13-9 CAPLUS

CN β-D-Galactopyranoside, 6-(4-methoxyphenyl)-2-methylimidazo[1,2-a]pyrazin-3-yl, 2,3,4,6-tetraacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

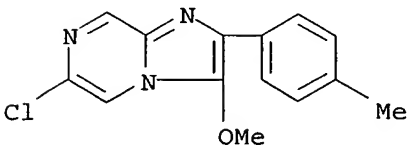


L24 ANSWER 11 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1996:397698 CAPLUS
DOCUMENT NUMBER: 125:184868
TITLE: Ligands for the central benzodiazepine receptor: structure-affinity relationship studies on imidazo[1,2-b]pyridazines
AUTHOR(S): Matyus, Peter; Barlin, Gordon B.; Harrison, Peter W.; Wong, Margaret G.; Davies, Les P.
CORPORATE SOURCE: Div. Neuroscience, Australian National Univ., Canberra, 2601, Australia
SOURCE: Australian Journal of Chemistry (1996), 49(4), 435-442
CODEN: AJCHAS; ISSN: 0004-9425
PUBLISHER: Commonwealth Scientific and Industrial Research Organization
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Seventy-six imidazo[1,2-b]pyridazines and some bicyclic isomers have been analyzed and compared in terms of geometric and electronic requirements for binding to central benzodiazepine receptors. The binding sites identified for these compds. by mol. modeling are consistent with known benzodiazepine receptor-ligand interaction models. However, for the most active compds., addnl. binding sites are proposed.

IT 142074-27-9
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(structure-affinity relationship of imidazopyridazines as ligands for the central benzodiazepine receptor)

RN 142074-27-9 CAPLUS
CN Imidazo[1,2-a]pyrazine, 6-chloro-3-methoxy-2-(4-methylphenyl)- (9CI) (CA INDEX NAME)

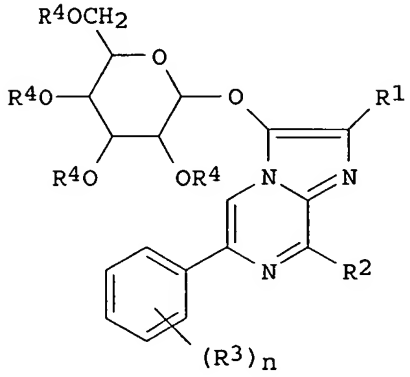


L24 ANSWER 12 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1996:335963 CAPLUS
DOCUMENT NUMBER: 125:11354
TITLE: Preparation of luciferin derivatives of Umihotaru (Cypridina hilgendorfii)

INVENTOR(S): Mitani, Motohiro; Sakaki, Hidejiro; Koinuma, Yasuyoshi; Totani, Yoshiaki
PATENT ASSIGNEE(S): Nippon Oils & Fats Co., Ltd., Japan; NOF Corporation
SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08059686	A2	19960305	JP 1994-198770	19940823
JP 3648763	B2	20050518		

PRIORITY APPLN. INFO.: JP 1994-198770 19940823
OTHER SOURCE(S): CASREACT 125:11354; MARPAT 125:11354
GI



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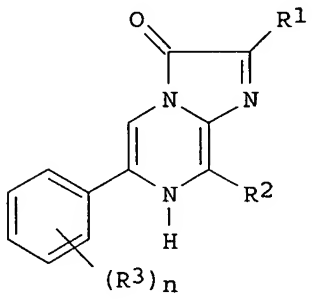
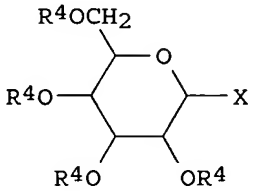


II



III

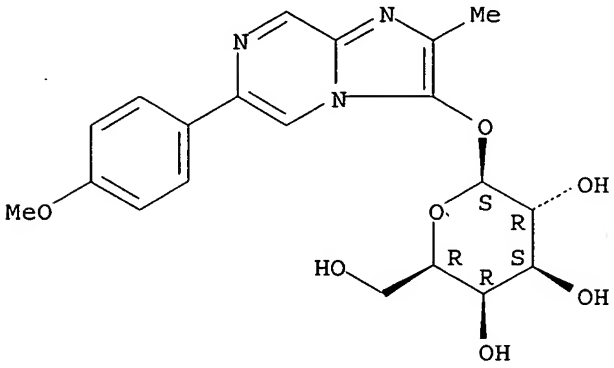
AB The title compds. (I; R1, R2 = H, C1-20 alkyl, C6-20 aryl, C7-19 arylalkyl; R3 = C1-5 alkyl or alkoxy; n = 0-5), which are useful as substrates for luminescent determination of sugar hydrolases such as α-D-galactosidase, are prepared by reacting imidazopyrazinone derivs. (II; R1 - R3, n = same as above) with sugar derivs. (III; X = halo; R4 = C1-7 acyl) in the presence of silver triflate and Na2HPO4. followed by solvolysis in the presence of an alkali. Thus, 0.1 g 6-(4-methoxyphenyl)-2-methylimidazo[1,2-a]pyrazin-3-one and 1.1 g Na2HPO4 were treated with 5 mL MeCN, 9 mL benzene, and 2.6 g mol. sieve 4A and stirred at room temperature for 1 h, treated with 0.18 g 2,3,4,6-tetra-O-acetyl-α-D-galactopyranosyl bromide and 0.37 g silver triflate, and stirred at room temperature for 2 h to give 39% 6-(4-methoxyphenyl)-2-methyl-3-(2,3,4,6-tetra-O-acetyl-α-D-galactopyranosyloxy)imidazo[1,2-a]pyrazine, which (0.5 g)

was treated with 3.5 mL MeOH and 1.8 mL concentrated aqueous NH3 and stirred at 40° for 6 h 30 min to give 78% 6-(4-methoxyphenyl)-2-methyl-3-(α-D-galactopyranosyloxy)imidazo[1,2-a]pyrazine (IV). IV showed luminescence in the presence of β-D-galactosidase with correlation factor r = 0.992.

IT 159503-66-9P 177205-12-8P
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation); USES (Uses)
(preparation of luciferin derivs. of Cypridina hilgendorfii as substrates for luminescent determination of sugar hydrolases)

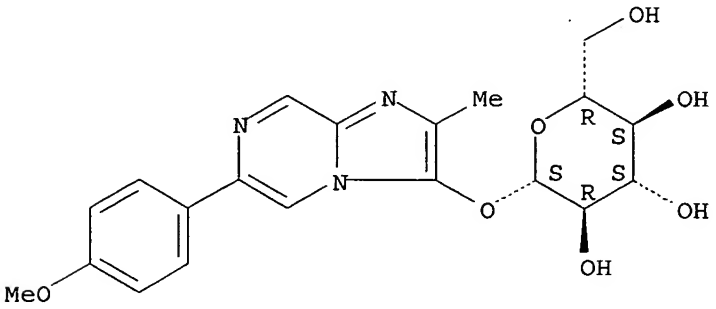
RN 159503-66-9 CAPLUS
CN β-D-Galactopyranoside, 6-(4-methoxyphenyl)-2-methylimidazo[1,2-a]pyrazin-3-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 177205-12-8 CAPLUS
CN β-D-Glucopyranoside, 6-(4-methoxyphenyl)-2-methylimidazo[1,2-a]pyrazin-3-yl (9CI) (CA INDEX NAME)

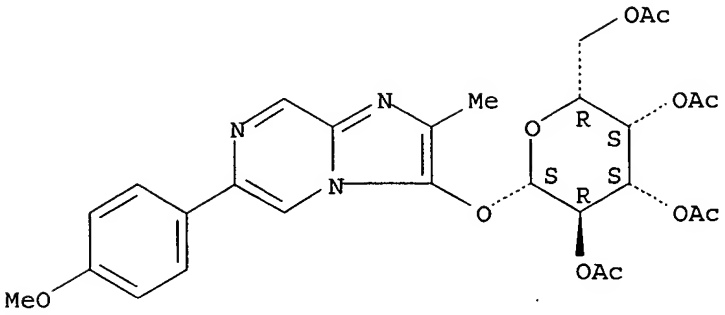
Absolute stereochemistry.



IT 177205-13-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of luciferin derivs. of Cypridina hilgendorfii as substrates for luminescent determination of sugar hydrolases)

RN 177205-13-9 CAPLUS
CN β-D-Galactopyranoside, 6-(4-methoxyphenyl)-2-methylimidazo[1,2-a]pyrazin-3-yl, 2,3,4,6-tetraacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.



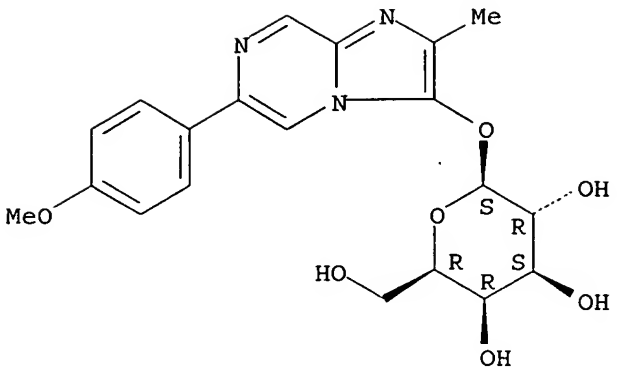
L24 ANSWER 13 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:992122 CAPLUS
DOCUMENT NUMBER: 124:80192
TITLE: Enhancement effect of 2,6-O-dimethyl-β-cyclodextrin on the chemiluminescent detection of β-D-galactosidase using a Cypridina luciferin analog
AUTHOR(S): Mitani, Motohiro; Sakaki, Syujiro; Koinuma, Yasumi; Toya, Yoshiaki; Kosugi, Masanori
CORPORATE SOURCE: Tsukuba Res. Lab., NOF Corp., Tsukuba, 300-26, Japan
SOURCE: Analytical Sciences (1995), 11(6), 1013-15
CODEN: ANSCEN; ISSN: 0910-6340
PUBLISHER: Japan Society for Analytical Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English

AB β-Cyclodextrins enhanced the chemiluminescent detection of β-galactosidase using the Cypridina luciferin analog 3-(β-D-galactopyranosyloxy)-6-(4-methoxyphenyl)-2-methylimidazo[1,2-a]pyrazine (β-Gal-MCLA) in the order 2,6-O-dimethyl-β-cyclodextrin > 2,3,6-O-trimethyl-β-cyclodextrin > β-cyclodextrin. Detection of mouse IgG by chemiluminescent enzyme immunoassay (CLEIA) using β-Gal-MCLA and β-galactosidase to amplify the signal was also enhanced by inclusion of 2,6-O-trimethyl-β-cyclodextrin.

IT 159503-66-9
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(enhancement effect of 2,6-O-dimethyl-β-cyclodextrin on the chemiluminescent detection of β-D-galactosidase using a Cypridina luciferin analog)

RN 159503-66-9 CAPLUS
CN β-D-Galactopyranoside, 6-(4-methoxyphenyl)-2-methylimidazo[1,2-a]pyrazin-3-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.

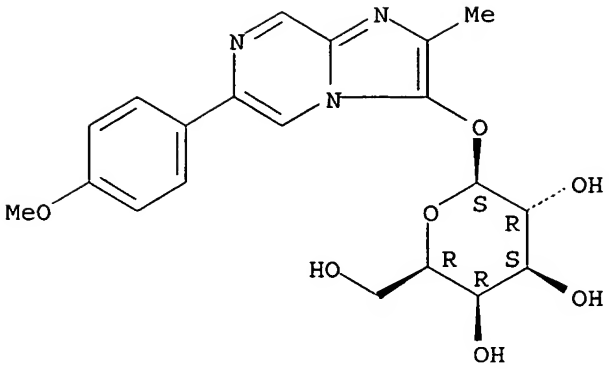


L24 ANSWER 14 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:126975 CAPLUS
DOCUMENT NUMBER: 122:4783
TITLE: Chemiluminescent assay of β-D-galactosidase using Cypridina luciferin analog: 3-(β-D-galactopyranosyloxy)-6-(4-methoxyphenyl)-2-methylimidazo[1,2-a]pyrazine
AUTHOR(S): Mitani, Motohiro; Sakaki, Syujiro; Koinuma, Yasumi; Toya, Yoshiaki; Kosugi, Masanori
CORPORATE SOURCE: Tsukuba Res. Lab., NOF Corp., Ibaraki, 300-26, Japan
SOURCE: Analytical Sciences (1994), 10(5), 813-14
CODEN: ANSCEN; ISSN: 0910-6340
DOCUMENT TYPE: Journal
LANGUAGE: English

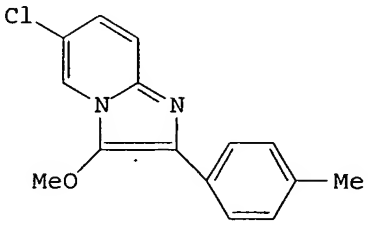
AB We prepared a new Cypridina luciferin analog, 3-(β-D-galactopyranosyloxy)-6-(4-methoxyphenyl)-2-methylimidazo[1,2-a]-pyrazine (β-Gal-MCLA) which can enzymically remove galactose to produce 2-methyl-6-(4-methoxyphenyl)-3,7-dihydroimidazo[1,2-a]pyrazine-3(7H)-one(MCLA), its autoxidn. follows, providing the chemiluminescence. β-Gal-MCLA was thus a useful chemiluminescent substrate for β-D-galactosidase determination

IT 159503-66-9
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(chemiluminescent assay of β-D-galactosidase using Cypridina luciferin analog: 3-(β-D-galactopyranosyloxy)-6-(4-methoxyphenyl)-2-methylimidazo[1,2-a]pyrazine)
RN 159503-66-9 CAPLUS
CN β-D-Galactopyranoside, 6-(4-methoxyphenyl)-2-methylimidazo[1,2-a]pyrazin-3-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L24 ANSWER 15 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1992:448498 CAPLUS
DOCUMENT NUMBER: 117:48498
TITLE: Imidazo[1,2-b]pyridazines. XII. Syntheses and central nervous system activities of some substituted imidazo[1,2-b]pyridazines and related imidazo[1,2-a]pyridines, imidazo[1,2-a]pyrimidines and imidazo[1,2-a]pyrazines
AUTHOR(S): Barlin, Gordon B.; Davies, Les P.; Ireland, Stephen J.; Ngu, Maria M. L.; Zhang, Jiankuo
CORPORATE SOURCE: John Curtin Sch. Med. Res., Aust. Natl. Univ., Canberra, 2601, Australia
SOURCE: Australian Journal of Chemistry (1992), 45(5), 877-88
CODEN: AJCHAS; ISSN: 0004-9425
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



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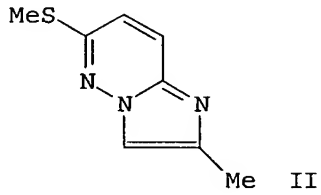
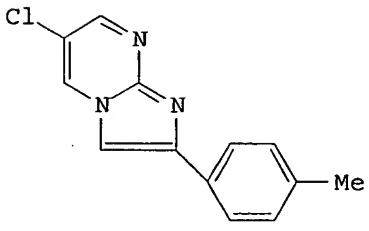
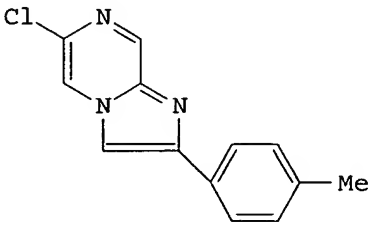


II



III



IV

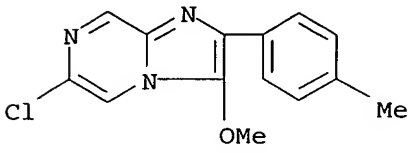
AB Syntheses are reported for some 6-chloro(alkoxy, alkylthio and phenylthio)-3-benzamidomethyl(acetamidomethyl and methoxy)-2-arylimidazo[1,2-a]pyridines, e.g. I, and some corresponding imidazo[1,2-b]pyridazines, e.g. II, imidazo[1,2-a]pyrimidines, e.g. III,

and imidazo[1,2-a]pyrazines, e.g. IV. Thus, 5-chloroopyridin-2-amine was treated with p-tolylglyoxal to give I. IC50 values (or percentage displacement) are reported and discussed for the displacement of [3H]diazepam from rat brain membrane by each of these compds. The imidazo[1,2-a]pyridines were generally slightly less potent than the imidazo[1,2-b]pyridazines but considerably more potent than the corresponding imidazo[1,2-a]pyrimidines or imidazo[1,2-a]pyrazines. Substitution of a 2-aryl group by a 2-alkyl group in imidazo[1,2-b]pyridazines led to significant loss of activity.

IT 142074-27-9P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and central nervous system activity of)

RN 142074-27-9 CAPLUS

CN Imidazo[1,2-a]pyrazine, 6-chloro-3-methoxy-2-(4-methylphenyl)- (9CI) (CA INDEX NAME)



L24 ANSWER 16 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1987:153383 CAPLUS

DOCUMENT NUMBER: 106:153383

TITLE: Chemical studies of myctophina fish bioluminescence

AUTHOR(S): Inoue, Shoji; Okada, Kunisuke; Tanino, Hideo; Kakoi, Hisae

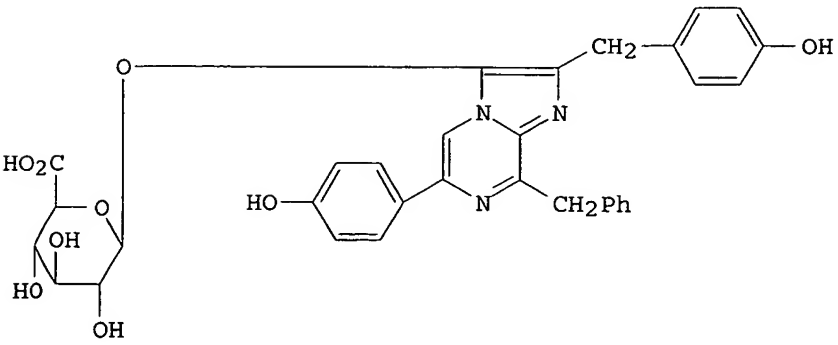
CORPORATE SOURCE: Fac. Pharm., Meijo Univ., Nagoya, 468, Japan

SOURCE: Chemistry Letters (1987), (2), 417-18
CODEN: CMLTAG; ISSN: 0366-7022

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



I

AB A new type of masked watasenia preluciferin was isolated from the liver of

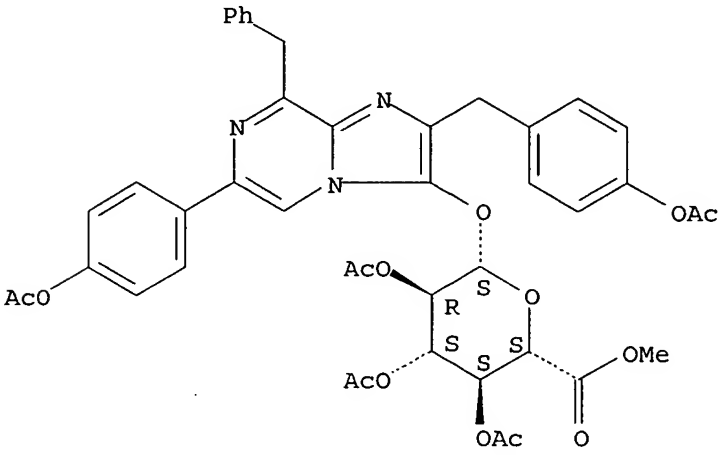
a myctophina fish (Diaphus elucens) and its structure was determined as watasenia preluciferyl β-D-glucopyranosiduronic acid (I).

IT 107503-11-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(deacetylation of)

RN 107503-11-7 CAPLUS

CN β-D-Glucopyranosiduronic acid, 6-[4-(acetyloxy)phenyl]-2-[[4-(acetyloxy)phenyl]methyl]-8-(phenylmethyl)imidazo[1,2-a]pyrazin-3-yl, methyl ester, 2,3,4-triacetate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

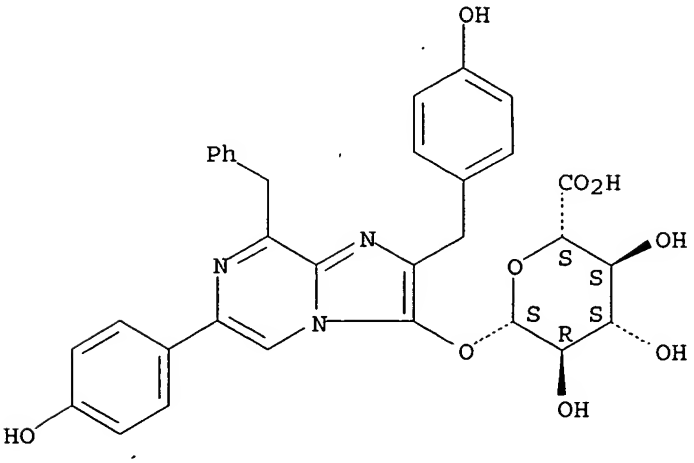


IT 107503-09-3
RL: BIOL (Biological study)
(of liver, of myctophina fish)

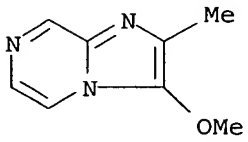
RN 107503-09-3 CAPLUS

CN β-D-Glucopyranosiduronic acid, 6-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)methyl]-8-(phenylmethyl)imidazo[1,2-a]pyrazin-3-yl (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



L24 ANSWER 17 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1985:55384 CAPLUS
DOCUMENT NUMBER: 102:55384
TITLE: Carbon-13 nuclear magnetic resonance spectra in the identification of N-, O- or S-methyl derivatives of some tautomeric hydroxy and mercapto nitrogen heterocycles
AUTHOR(S): Barlin, Gordon B.; Brown, Desmond J.; Fenn, M. David
CORPORATE SOURCE: John Curtin Sch. Med. Res., Aust. Natl. Univ., Canberra, 2601, Australia
SOURCE: Australian Journal of Chemistry (1984), 37(11), 2391-5
CODEN: AJCHAS; ISSN: 0004-9425
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Carbon-13 NMR spectroscopy, in contrast to 1H NMR spectroscopy, has been shown to provide a clear distinction in a variety of N heterocyclic systems between O-Me and nuclear N-Me groups. MeO groups occur in the range δ 53.20-61.87, nuclear N-Me groups at 34.29-49.62, and MeS groups at 12.35-14.55 for the compds. examined in CDCl3. Data for N- and O-Me derivs. of pyridin-2 and -4-ol, the corresponding pyrimidines, and some S analogs were compared with those for the unmethylated parent compds.
IT 87814-38-8
RL: ANST (Analytical study)
(identification of, carbon-13 NMR spectrometric)
RN 87814-38-8 CAPLUS
CN Imidazo[1,2-a]pyrazine, 3-methoxy-2-methyl- (9CI) (CA INDEX NAME)



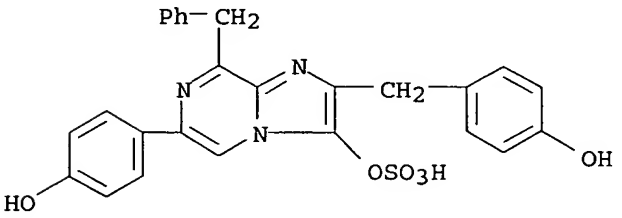
L24 ANSWER 18 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1984:468065 CAPLUS
DOCUMENT NUMBER: 101:68065
TITLE: Mechanism of photoinactivation and re-activation in the bioluminescence system of the ctenophore Mnemiopsis
AUTHOR(S): Anctil, Michel; Shimomura, Osamu
CORPORATE SOURCE: Mar. Biol. Lab., Woods Hole, MA, 02543, USA
SOURCE: Biochemical Journal (1984), 221(1), 269-72
CODEN: BIJOAK; ISSN: 0306-3275
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The bioluminescence of M. leidyi takes place when the photoprotein mnemiopsin in the photocytes reacts with Ca2+. The luminescence is inhibited in sunlight and this photoinhibition is reversible by keeping the live specimens in the dark. Exts. of mnemiopsin are similarly photoinhibited, but the photoinhibition cannot be reversed in the dark. Photoinhibited mnemiopsin can be reactivated in the dark by incubation with coelenterazine and O only in solns. having a pH very close to 9.0. The reactivation in vivo probably takes place in the same manner, using the coelenterazine that is supplied from its abundant storage form. Apparently, photoinactivation of mnemiopsin results in the dissociation of

coelenterazine and O from the mol. of photoprotein; the dissociated form of the former mol. is an inactive form of coelenterazine, not free coelenterazine.

IT 65417-14-3
RL: BIOL (Biological study)
(of ctenophore)

RN 65417-14-3 CAPLUS

CN Imidazo[1,2-a]pyrazin-3-ol, 6-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)methyl]-8-(phenylmethyl)-, 3-(hydrogen sulfate), monosodium salt (9CI) (CA INDEX NAME)



● Na

L24 ANSWER 19 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1983:594926 CAPLUS

DOCUMENT NUMBER: 99:194926

TITLE: Imidazo[1,2-b]pyridazines and an imidazo[1,2-a]pyrazine from pyridazin- and pyrazinamines

AUTHOR(S): Barlin, Gordon B.; Brown, Desmond J.; Kadunc, Zdenka; Petric, Andrej; Stanovnik, Branka; Tisler, Miha

CORPORATE SOURCE: John Curtin Sch. Med. Res., Canberra, 2601, Australia

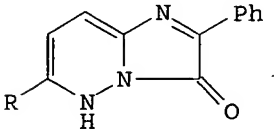
SOURCE: Australian Journal of Chemistry (1983), 36(6), 1215-20
CODEN: AJCHAS; ISSN: 0004-9425

DOCUMENT TYPE: Journal

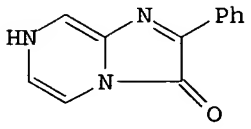
LANGUAGE: English

OTHER SOURCE(S): CASREACT 99:194926

GI



I

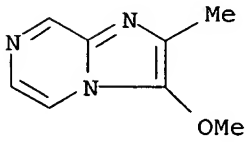


II

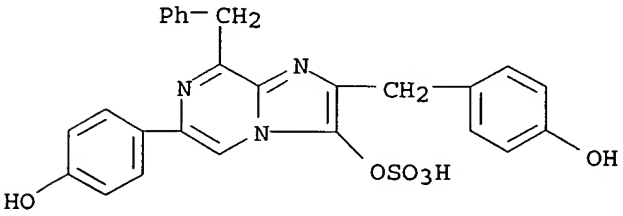
AB The ambiguous condensations of PhCOCHO with pyridazin-3-amines and pyrazin-2-amine give imidazopyridazinones I (R = H, Cl) and imidazopyrazinone II; resp. The former products exist as such, at least in the solid state, whereas the latter product exists to a large extent as the corresponding dipolar mol. The reactions, degrdns., and NMR spectra of the products are discussed.

IT 87814-38-8P
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)
RN 87814-38-8 CAPLUS
CN Imidazo[1,2-a]pyrazine, 3-methoxy-2-methyl- (9CI) (CA INDEX NAME)



L24 ANSWER 20 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1980:107639 CAPLUS
DOCUMENT NUMBER: 92:107639
TITLE: Comparison of the amounts of key components in the bioluminescence systems of various coelenterates
AUTHOR(S): Shimomura, Osamu; Johnson, Frank H.
CORPORATE SOURCE: Dep. Biol., Princeton Univ., Princeton, NJ, 08540, USA
SOURCE: Comparative Biochemistry and Physiology, Part B: Biochemistry & Molecular Biology (1979), 64B(1), 105-7
CODEN: CBPBB8; ISSN: 0305-0491
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Luciferase, photoprotein, free and protein-bound coelenterazine (I) and I enol-sulfate were assayed and compared in 5 bioluminescent coelenterates. Hydrozoans Aequorea aequorea and Halistaura cellularia contained photoprotein plus very small amts. of I enol-sulfate and luciferase activity, but no free I. Anthozoans Ptilosarcus gurneyi, Cavernularia obesa, and Renilla muelleri contained luciferase, I, and I enol-sulfate, but very little or no photoprotein. I existed mainly in a stabilized form bound to a Ca-binding protein. The bioluminescent reactions in the coelenterates were compared.
IT 55779-47-0
RL: BIOL (Biological study)
(of coelenterates, bioluminescence in relation to)
RN 55779-47-0 CAPLUS
CN Imidazo[1,2-a]pyrazin-3-ol, 6-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)methyl]-8-(phenylmethyl)-, 3-(hydrogen sulfate) (9CI) (CA INDEX NAME)



L24 ANSWER 21 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1979:519858 CAPLUS
DOCUMENT NUMBER: 91:119858
TITLE: A Bioluminescence assay for PAP (3',5'-diphosphoadenosine) and PAPS (3'-phosphoadenylyl

sulfate

AUTHOR(S): Anderson, James Michael; Hori, Kazuo; Cormier, Milton J.

CORPORATE SOURCE: Boyd Grad. Stud. Res. Cent., Univ. Georgia, Athens, GA, 30602, USA

SOURCE: Methods in Enzymology (1978), 57(Biolumin. Chemilumin.), 244-57
CODEN: MENZAU; ISSN: 0076-6879

DOCUMENT TYPE: Journal

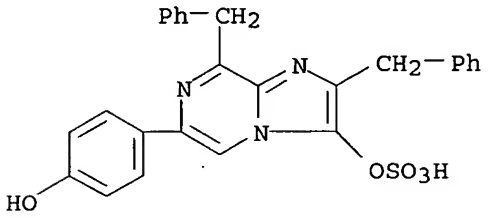
LANGUAGE: English

AB Procedures in the bioluminescence assay of PAP and PAPS using the luciferin-luciferase reaction in Renilla reniformis are described. The assay is sensitive to 0.1 pmol of PAP. The synthesis of the substrate benzyl luciferyl sulfate and isolation of luciferin sulfokinase and luciferase are also described.

IT 71369-28-3P
RL: PREP (Preparation)
(preparation of, as substrate for diphosphoadenosine and PAPS bioluminescence assay)

RN 71369-28-3 CAPLUS

CN Imidazo[1,2-a]pyrazin-3-ol, 6-(4-hydroxyphenyl)-2,8-bis(phenylmethyl)-, 3-(hydrogen sulfate), monopotassium salt (9CI) (CA INDEX NAME)

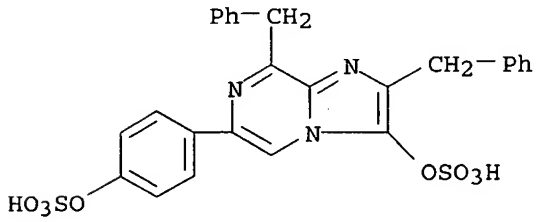


● K

IT 71369-27-2
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with aryl sulfatase)

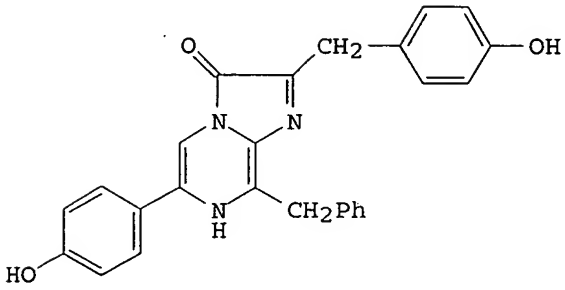
RN 71369-27-2 CAPLUS

CN Imidazo[1,2-a]pyrazin-3-ol, 2,8-bis(phenylmethyl)-6-[4-(sulfooxy)phenyl]-, hydrogen sulfate (ester), dipotassium salt (9CI) (CA INDEX NAME)

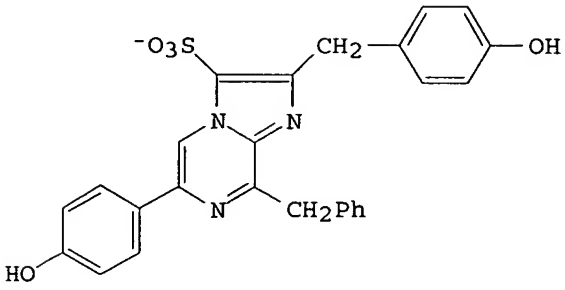


●2 K

L24 ANSWER 22 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1978:50764 CAPLUS
DOCUMENT NUMBER: 88:50764
TITLE: Complete structure of Renilla luciferin and luciferyl sulfate
AUTHOR(S): Inoue, Shoji; Kakoi, Hisae; Murata, Mikiko; Goto, Toshio; Shimomura, Osamu
CORPORATE SOURCE: Fac. Pharm., Meijo Univ., Nagoya, Japan
SOURCE: Tetrahedron Letters (1977), (31), 2685-8
CODEN: TELEAY; ISSN: 0040-4039
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



I



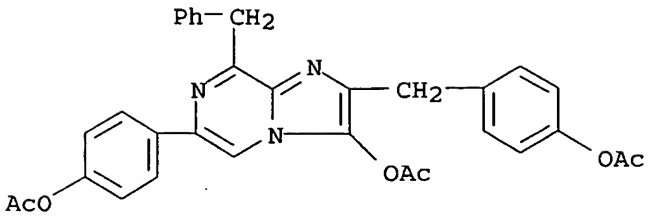
II

AB Examination of Renilla exts. showed that Renilla luciferin is coelenterazine (I). The structure of natural luciferyl sulfate was determined as II by comparison of natural and synthetic II. II was synthesized from I by sequential treatment with (AcO)2O, MeOH/NH3, and pyridine-SO3 complex and hydrolysis with MeOH/NaOH.

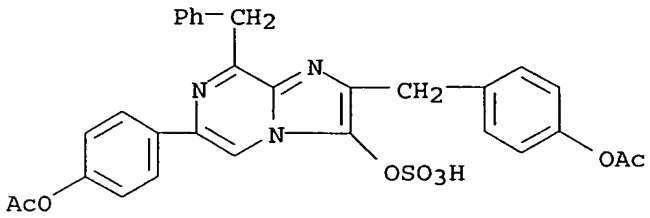
IT 65417-16-5P 65417-17-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydrolysis of)

RN 65417-16-5 CAPLUS

CN Imidazo[1,2-a]pyrazin-3-ol, 6-[4-(acetyloxy)phenyl]-2-[[4-(acetyloxy)phenyl]methyl]-8-(phenylmethyl)-, acetate (ester) (9CI) (CA INDEX NAME)

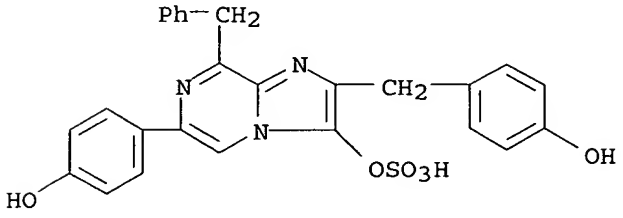


RN 65417-17-6 CAPLUS
CN Imidazo[1,2-a]pyrazin-3-ol, 6-[4-(acetyloxy)phenyl]-2-[[4-(acetyloxy)phenyl]methyl]-8-(phenylmethyl)-, hydrogen sulfate (ester), sodium salt (9CI) (CA INDEX NAME)



● Na

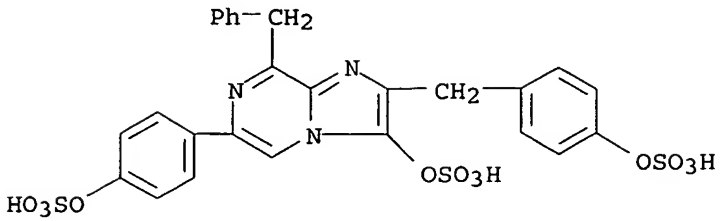
IT 65417-14-3P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and structure of)
RN 65417-14-3 CAPLUS
CN Imidazo[1,2-a]pyrazin-3-ol, 6-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)methyl]-8-(phenylmethyl)-, 3-(hydrogen sulfate), monosodium salt (9CI) (CA INDEX NAME)



● Na

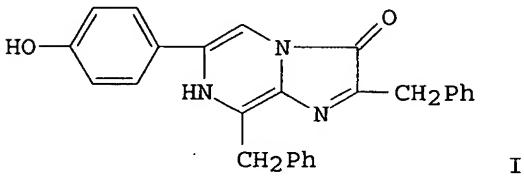
IT 65417-15-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 65417-15-4 CAPLUS
CN Imidazo[1,2-a]pyrazin-3-ol, 8-(phenylmethyl)-6-[4-(sulfooxy)phenyl]-2-[[4-(sulfooxy)phenyl]methyl]-, hydrogen sulfate (ester), trisodium salt (9CI)

(CA INDEX NAME)



●3 Na

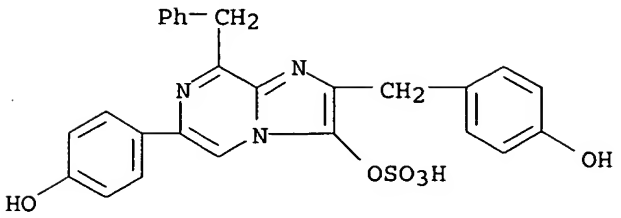
L24 ANSWER 23 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1977:596264 CAPLUS
DOCUMENT NUMBER: 87:196264
TITLE: Substrate and substrate analog binding properties of Renilla luciferase
AUTHOR(S): Matthews, John C.; Hori, Kazuo; Cormier, Milton J.
CORPORATE SOURCE: Dep. Biochem., Univ. Georgia, Athens, GA, USA
SOURCE: Biochemistry (1977), 16(24), 5217-20
CODEN: BICHAW; ISSN: 0006-2960
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



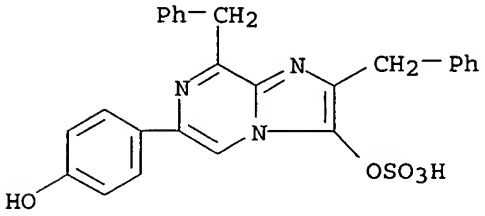
I

AB The binding characteristics of luciferin, luciferin analogs (e.g. I), and competitive inhibitors of the luciferin-luciferase reaction were studied. Luciferin binding and orientation in the single luciferin binding site of luciferase from R. reniformis are highly specific for and dependent upon the 3 group substituents of the luciferin mol., whereas the imidazolone-pyrazine nucleus of luciferin is not directly involved in binding. Anaerobic luciferin binding promotes a rapid concentration-dependent aggregation of luciferase which results in irreversible inactivation of the enzyme. This aggregation phenomenon is not observed upon binding of oxyluciferin, luciferyl sulfate, or luciferin analogs in which the substituent at the 2 position of the imidazolone-pyrazine ring has been substantially altered.
IT 55779-47-0 64750-83-0
RL: PROC (Process)
(luciferase binding of, structural factors in)
RN 55779-47-0 CAPLUS
CN Imidazo[1,2-a]pyrazin-3-ol, 6-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)methyl]-8-(phenylmethyl)-, 3-(hydrogen sulfate) (9CI) (CA

INDEX NAME)



RN 64750-83-0 CAPLUS
CN Imidazo[1,2-a]pyrazin-3-ol, 6-(4-hydroxyphenyl)-2,8-bis(phenylmethyl)-, 3-(hydrogen sulfate) (9CI) (CA INDEX NAME)



L24 ANSWER 24 OF 24 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1975:405600 CAPLUS
DOCUMENT NUMBER: 83:5600
TITLE: Chemical nature of bioluminescence systems in coelenterates
AUTHOR(S): Shimomura, Osamu; Johnson, Frank H.
CORPORATE SOURCE: Dep. Biol., Princeton Univ., Princeton, NJ, USA
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (1975), 72(4), 1546-9
CODEN: PNASA6; ISSN: 0027-8424
DOCUMENT TYPE: Journal
LANGUAGE: English

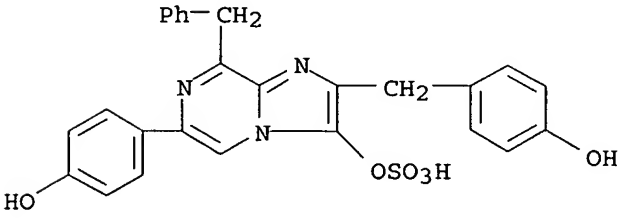
AB Anal. of substances involved in light-emitting reactions among bioluminescent coelenterates revealed a pronounced uniformity in the structural features of initial reactants, i.e., luciferins and photoprotein chromophores, as well as the light-emitter product. This product is structurally identical among the different classes of coelenterates; i.e., Hydrozoa (the jellyfish, Aequorea), Anthozoa (the sea cactus, Cavernularia; sea pansy, Renilla; and sea pen, Leioptilus), and very likely also the Scyphozoa (the jellyfish, Pelagia). In each of these instances the reaction product, 2-(p-hydroxyphenylacetyl)amino-3-benzyl-5-(p-hydroxyphenyl) pyrazine, is the actual light-emitter, whether it occurs in a Ca2+-triggered photoprotein type of luminescence or in a luciferin-luciferase type. The evidence indicates that in certain coelenterates, e.g., Cavernularia, these 2 types are equally significant, whereas in others (Renilla and Leioptilus) the luciferin-luciferase type predominates over the Ca-triggerable photoprotein type. Only the photoprotein type functions in the luciferaseless jellyfish, Aequorea. In all instances investigated, the structure of the light-emitter prior to the luminescence reaction appears to be essentially the same as that of

the chromophore of unreacted aequorin. The product of the luminescence reaction is absent in exts. of nonluminous species. However, a product very similar to that of luminescent coelenterates occurs also in representatives of other phyla, including the cephalopod molluscs, e.g., the "firefly squid" Watasenia and probably various ctenophores as well.

IT 55779-47-0
RL: BIOL (Biological study)
(in calcium-induced luminescence of coelenterates)

RN 55779-47-0 CAPLUS

CN Imidazo[1,2-a]pyrazin-3-ol, 6-(4-hydroxyphenyl)-2-[(4-hydroxyphenyl)methyl]-8-(phenylmethyl)-, 3-(hydrogen sulfate) (9CI) (CA INDEX NAME)



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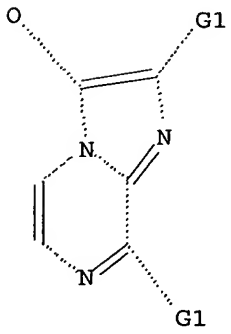
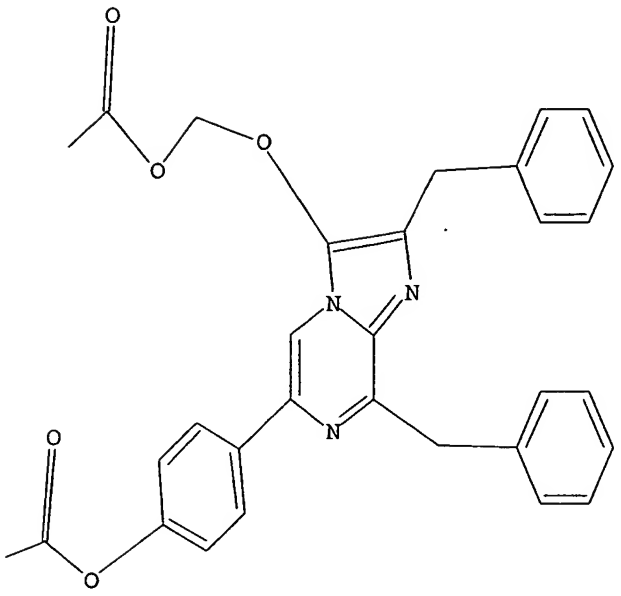


G1 Ak,H,[@1]

Structure attributes must be viewed using STN Express query preparation.
L3 46 SEA FILE=REGISTRY SSS FUL L1

L5 STR



Structure attributes must be viewed using STN Express query preparation.
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L13 1 SEA FILE=CAPLUS ABB=ON PLU=ON L12

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L13 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2003:376823 CAPLUS
DOCUMENT NUMBER: 138:365147
TITLE: Compositions, methods and kits pertaining to luminescent compounds
INVENTOR(S): Wood, Keith; Hawkins, Erika; Scurria, Mike; Klaubert, Dieter
PATENT ASSIGNEE(S): Promega Corporation, USA
SOURCE: PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003040100	A1	20030515	WO 2002-US34972	20021101

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,

PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2003153090	A1	20030814	US 2001-53482		20011102
CA 2462506	AA	20030515	CA 2002-2462506		20021101
EP 1451155	A1	20040901	EP 2002-802815		20021101
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, SK					
JP 2005515977	T2	20050602	JP 2003-542146		20021101
PRIORITY APPLN. INFO.:			US 2001-53482	A	20011102
			WO 2002-US34972	W	20021101

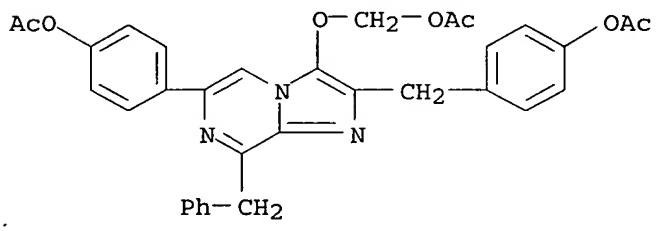
OTHER SOURCE(S): MARPAT 138:365147

AB A method of measuring the enzymic activity of a luciferase includes contacting a luminogenic protein, such as a luciferase, with a protected luminophore to form a composition; and detecting light produced from the composition
The protected luminophore provides increased stability and improved signal-to-background ratios relative to the corresponding unmodified coelenterazine.

IT 524066-92-0P 524066-93-1P 524066-94-2P
RL: ARU (Analytical role, unclassified); SPN (Synthetic preparation); ANST (Analytical study); PREP (Preparation)
(compns., methods and kits pertaining to luminescent compds.)

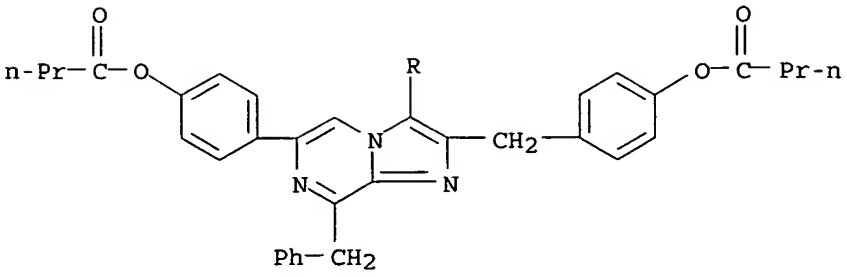
RN 524066-92-0 CAPLUS

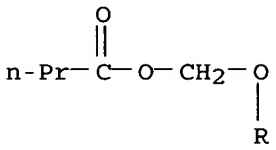
CN Phenol, 4-[3-[(acetyloxy)methoxy]-2-[[4-(acetyloxy)phenyl]methyl]-8-(phenylmethyl)imidazo[1,2-a]pyrazin-6-yl]-, acetate (ester) (9CI) (CA INDEX NAME)



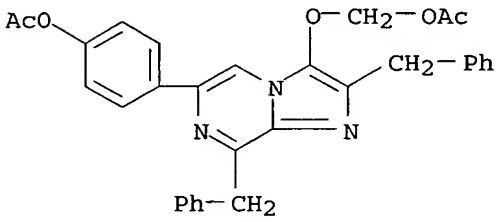
RN 524066-93-1 CAPLUS

CN Butanoic acid, 4-[3-[(1-oxobutoxy)methoxy]-2-[[4-(1-oxobutoxy)phenyl]methyl]-8-(phenylmethyl)imidazo[1,2-a]pyrazin-6-yl]phenyl ester (9CI) (CA INDEX NAME)





RN 524066-94-2 CAPLUS
CN Phenol, 4-[3-[(acetyloxy)methoxy]-2,8-bis(phenylmethyl)imidazo[1,2-a]pyrazin-6-yl]-, acetate (ester) (9CI) (CA INDEX NAME)



REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT